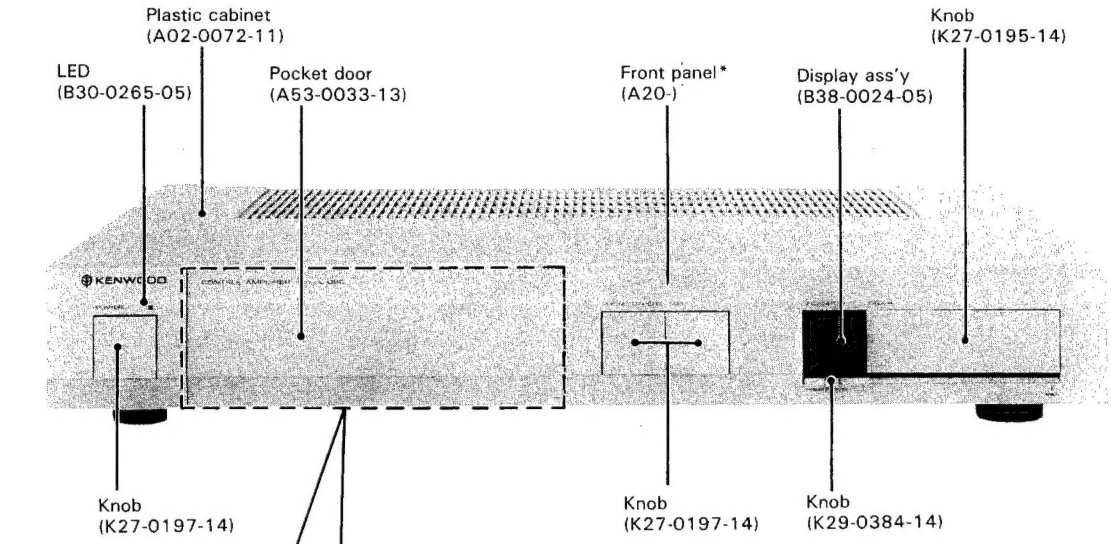
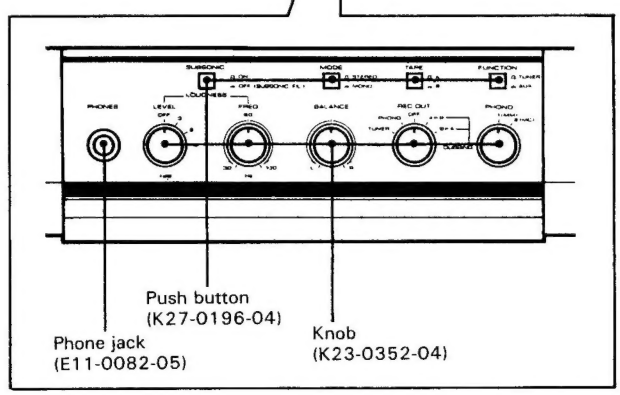
KENWOOD®

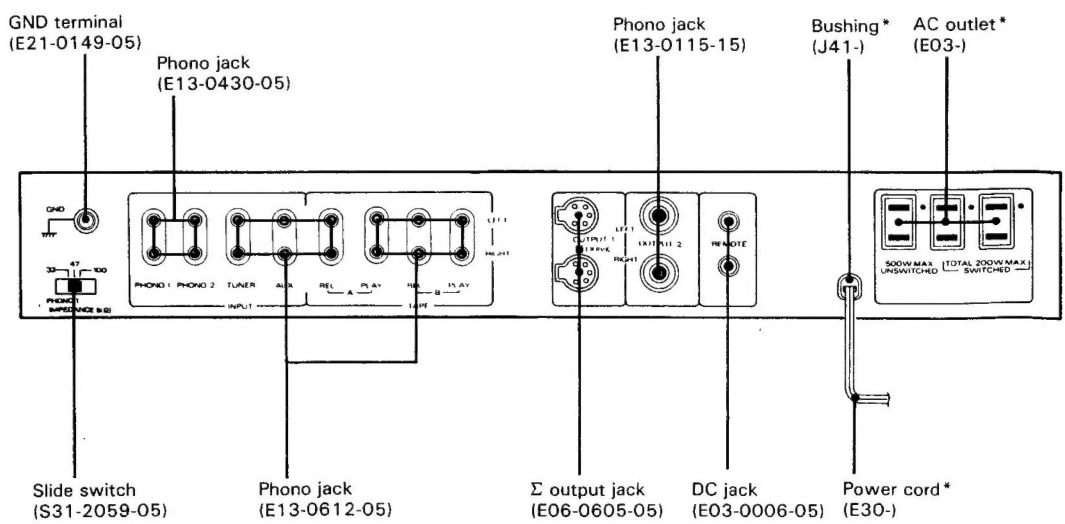
# L-08C

## CONTROL AMPLIFIER

SERVICE MANUAL




* Refer to Parts list. (P16)

# CORD STRINGING

## PRESET LEVEL KNOB

1 Tie the end of the string to the spring and hook the spring to the boss A and B of the volume pulley.
2 Insert and fix the volume pulley on the volume shaft and turn fully counterclockwise.
3 Wind the string one and half turn around the volume pulley starting from the upper side and dress the string in the direction 2 through 4 .
4 Wind the string a half turn around the volume pulley starting from its lower side 5 .
5 Fix the string to the clip.
6 Remove the spring from the boss B.
7 Confirm the volume control is turned fully counterclockwise (or at fully minimum position) and fix the preset level knob to the 0 position.

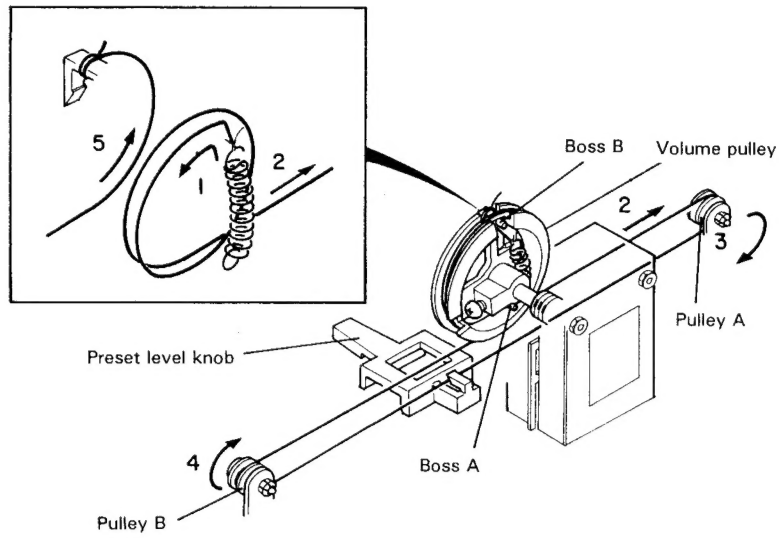



Fig. 1 Stringing preset level knob (rear view)

## CONTROL POCKET

1. Cord length: 23.5 cm
2. Cover the spring with the tube and hook the spring to the boss of the chassis.
3. Wind the cord two and half turns around the pulley of the air damper starting from its lower side.
4. Hook the loop of the cord to the boss on the pocket door.

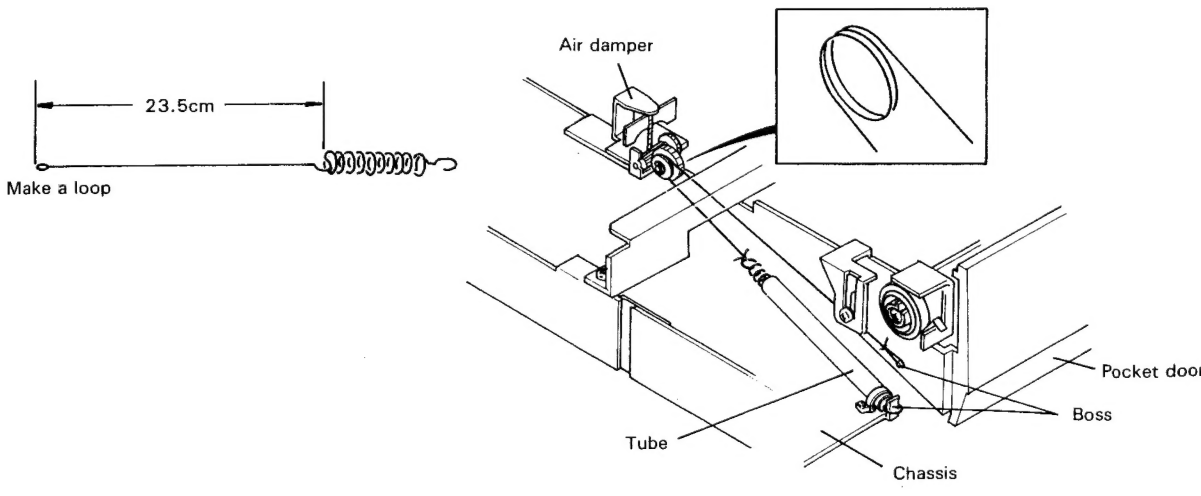



Fig. 2 Control pocket

# DISASSEMBLY FOR REPAIR

## KNOBS AND PANEL

1. Remove the case (Case is fixed by screws; Rear: one bottom: 2 screws.)
2. Push down the pocket door till it locks underside the unit. (Fig. 3-①)
3. Push the pawl of the power switch knob into the groove of the escutcheon. (Fig. 3-②)
4. Pull out the power switch knob. (Fig. 3-③)
5. Remove the LED (Fig. 3-④)
6. Remove the TAPE and PHONO/OTHERS knobs. (Fig. 3-⑤, ⑥)
7. Slide the PRESET LEVEL knob to 0 position (Minimum position). (Fig. 3-⑦)
8. Lightly lift the ends of the copper plate retaining FADER knob alternately and drag the knob out little by little in the direction of the arrow. The copper plate may come off when center of the plate is lifted. (Fig. 3-⑧, ⑨)
9. Remove the screws from the front panel (Fig. 3-⑩.); Top: 2 screws, Both side: 2 screws each.
10. Remove the screws on the front panel hidden behind the knobs from the front. (Fig. 4)

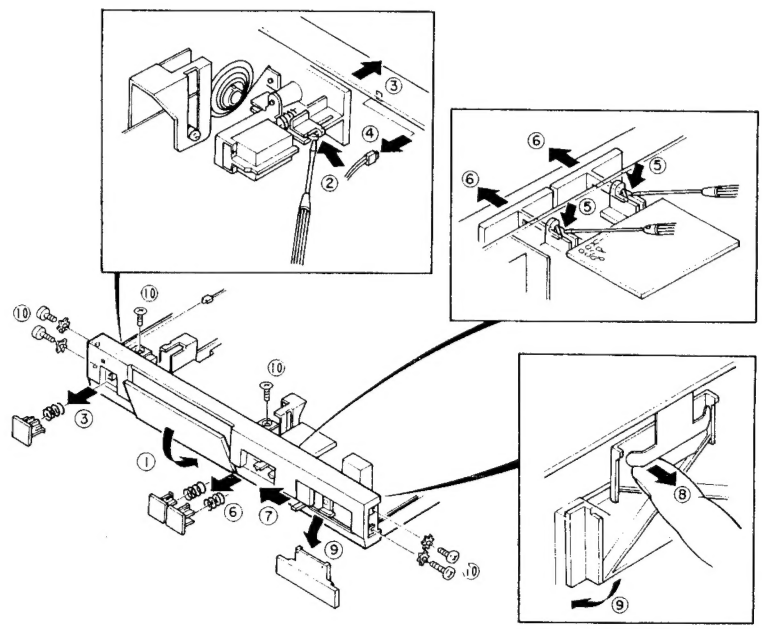


Fig. 3 How to remove knobs and panel (1)

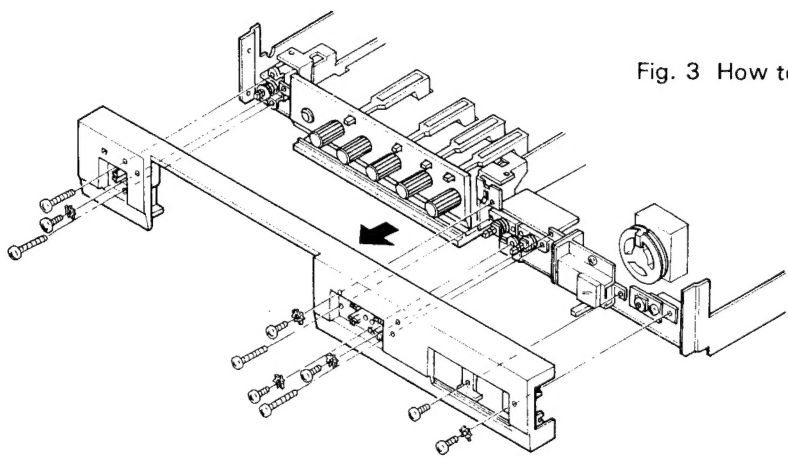


Fig. 4 How to remove knobs and panel (2)

# DISASSEMBLY FOR REPAIR

## CONTROL POCKET

1. Remove the front panel and knobs. (Refer to page 3)
2. Remove the string from the boss on the sub panel. (Fig. 5-①)
3. Remove the spiral spring. (Fig. 5-②)
4. Remove the screws from both side on the sub panel. (Fig. 5-③ ~ ⑥)

   **Note: Be careful not to miss the collar.**
5. Remove the gear ass'y. (Fig. 5-⑦)
6. Free the spiral spring from the chassis pushing it with a screw driver. (Fig. 5-⑧)
7. Remove the pocket door in the direction of the arrow. (Fig. 5-⑨)
8. To reassemble logically reverse this procedure.

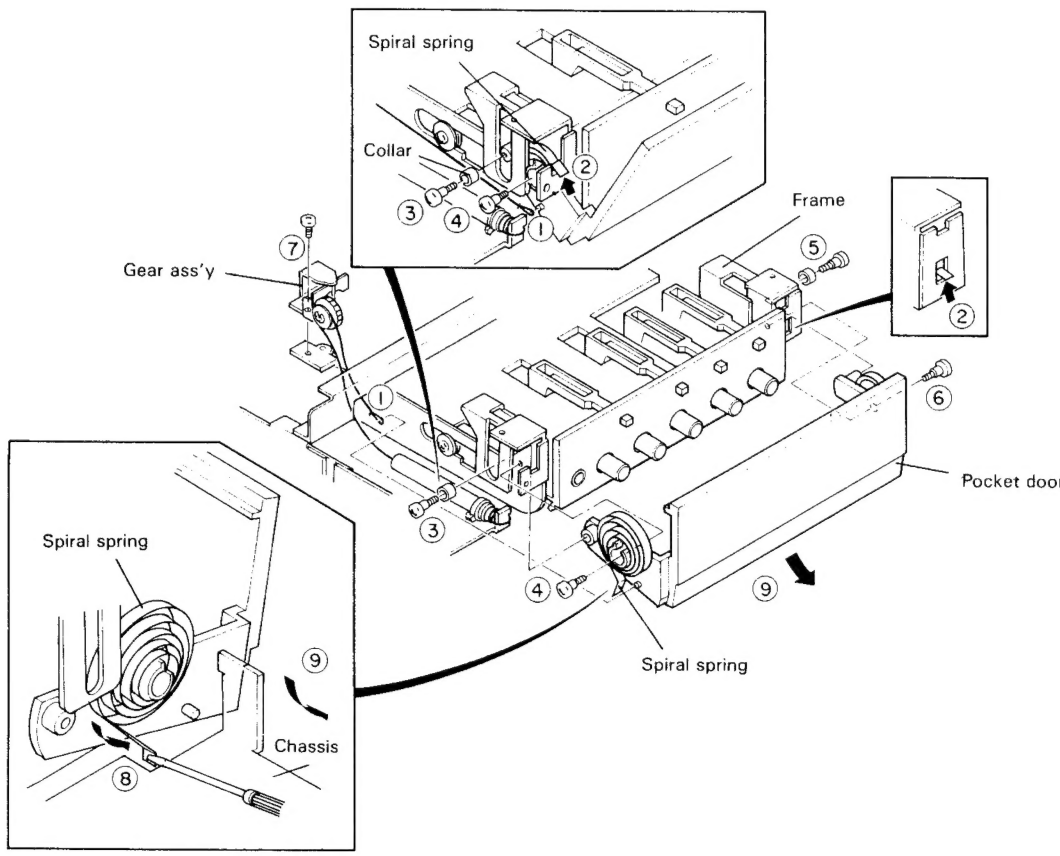



Fig. 5 How to remove control pocket

## SWITCH PCB ASS'Y (X13-2980-00)

1. Remove the front panel and knobs.
2. Remove the pocket door.
3. Remove the screws from the right side of the rear panel. (Fig. 6-①)
4. Remove the screw, on the preamp unit, from the frame (1). (Fig. 6-②)
5. Remove the screws from the frame (1) and (2). (Fig. 6-③, ④)
6. Remove the frame (1). (Fig. 6-⑤)
7. Remove the leads from wire clamper. (Fig. 6-⑥)
8. Remove the screw from the frame (2). (Fig. 6-⑦)
9. Remove the 2 screws on the bottom plate, from the frame (2). (Fig. 6-⑧)
10. Slide the frame (2) rightward and turn 30° clockwise.

    **Note: When removing the preamp pcb ass'y, be careful not to damage it by the projections of frame (2).**

# DISASSEMBLY FOR REPAIR

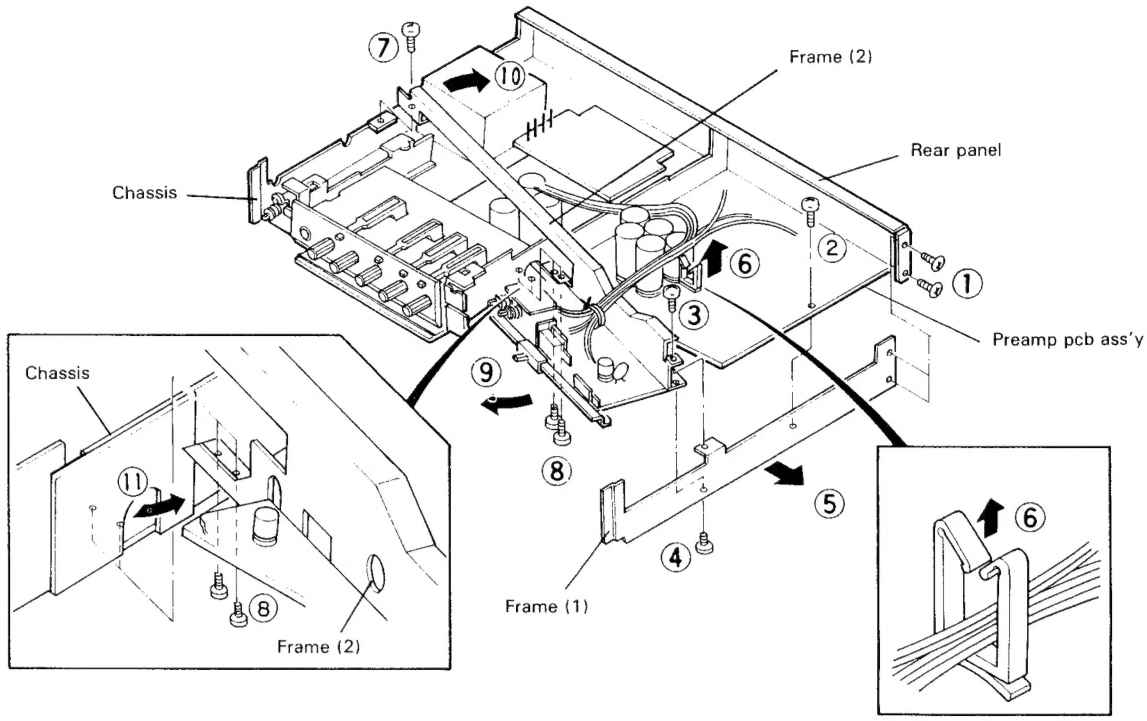



Fig. 6 How to remove switch pcb ass'y (X13-2980-00) (1)

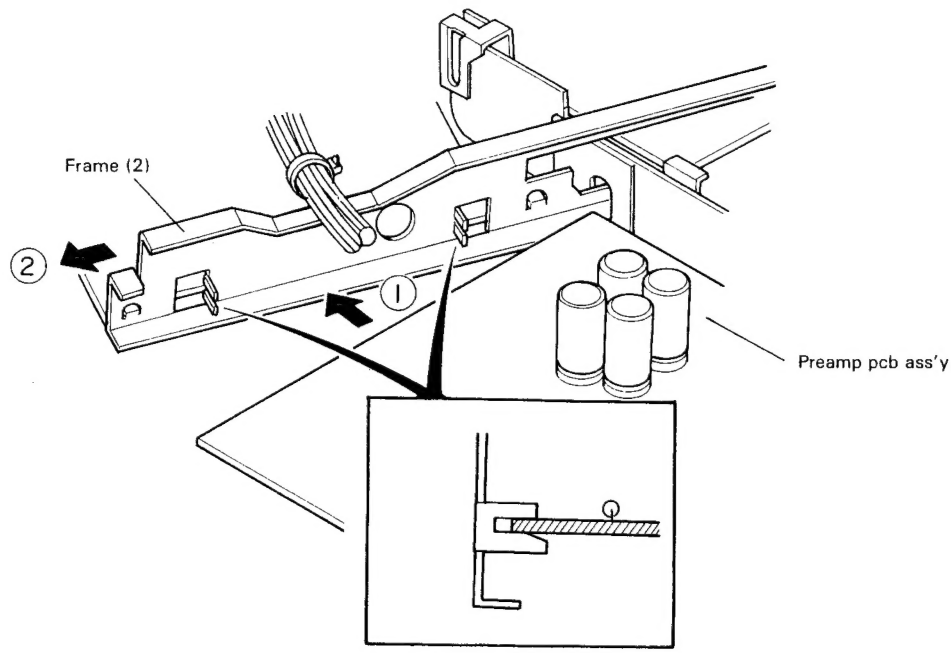



Fig. 7 How to remove switch pcb ass'y (X13-2980-00) (2)

# DISASSEMBLY FOR REPAIR

11. Push the front panel A inward. (Fig. 8-①)
12. Remove 2 pulleys (pulley B) on the left side. (Fig. 8-②, ③)
13. Remove the screws from the frame (3). (Fig. 8-④, ⑤)
14. Lift the left side of the front panel up. (Fig. 8-⑥)
15. Pull the frame (3) forward. (Fig. 8-⑦)
16. Pull the switch pcb ass'y forward and remove 2 pulleys (Pulley B) from the chassis: (Fig. 9-①)
17. Turn the switch pcb ass'y upside down. (Fig. 9-②, ③)
18. To reassemble logically reverse this procedure.

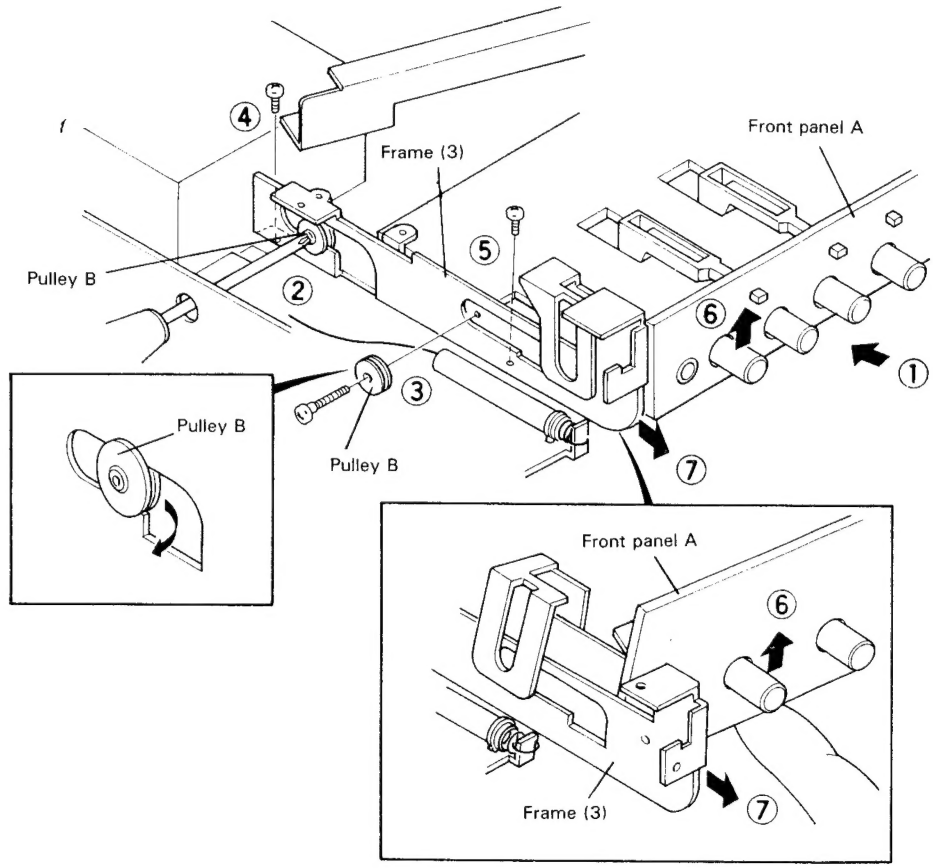



Fig. 8 How to remove switch pcb ass'y (3)

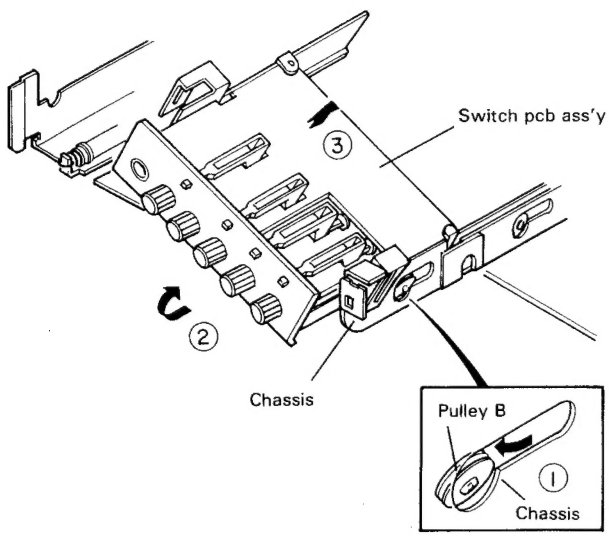
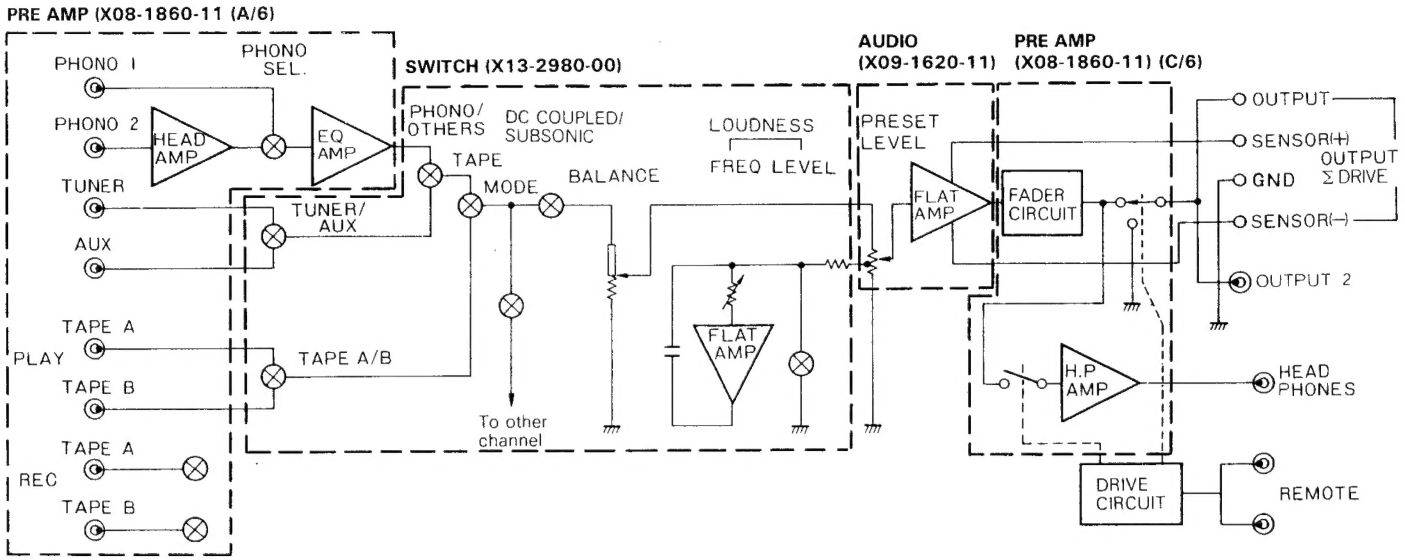
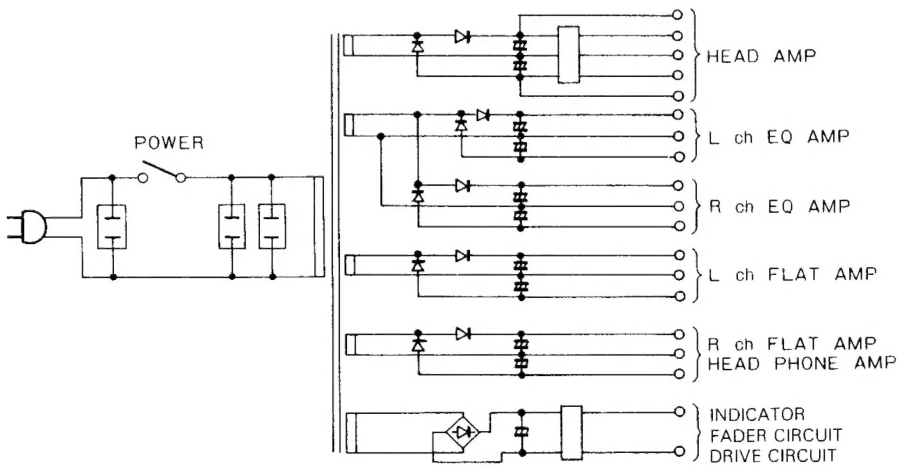



Fig. 9 How to remove switch pcb ass'y (4)

# BLOCK DIAGRAM



# CIRCUIT DESCRIPTION

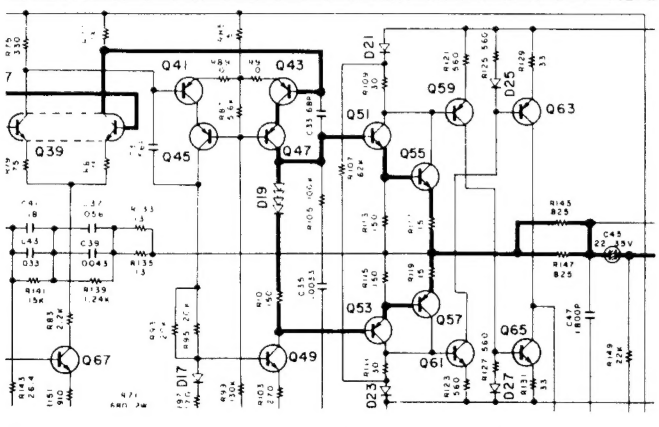
## Current Absorbing Circuit

Feedback-type voltage regulators are generally used for preamplifier power sources. This type of circuit provides low source impedance, but does not compensate for impedance of power supply and ground lines between the source and the amplifier, both of which have a tangible effect on sound quality. Therefore, each preamplifier circuit (equalizer, flat amplifier) is provided with a voltage regulator and a thick copper plate which is used as a ground line to solve this problem.

However, influence on tone quality caused by the signal current flowing through bypass capacitors and the ground line of the voltage regulator is still unsolved.

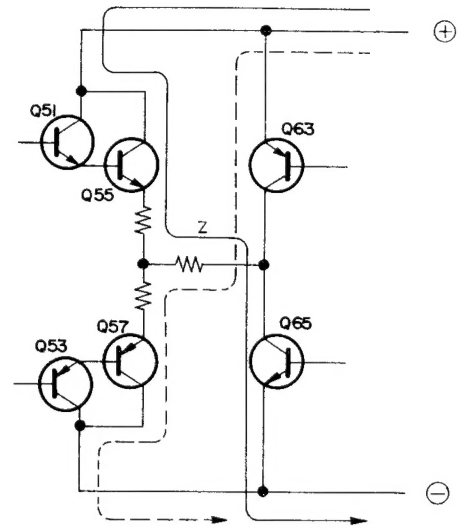
In the L-08C, a current absorbing circuit is provided in the final stage of each MM equalizer and flat amplifier to solve this problem.

### 1. Equalizer



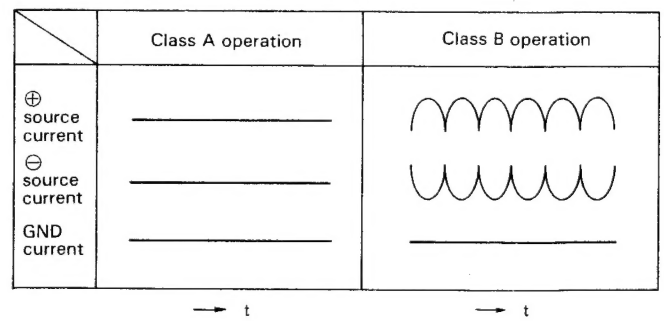

Operation of the current absorbing circuit in the equalizer is explained below. D21, D23, D25 and D27 are $V_{BE}$ compensating diodes of Q59, Q61, Q63 and Q65, respectively.

When the input signal is positive, Q51 and Q55 are ON and their collector currents flow. The collector current of Q59 increases because of the voltage drop across R109 and that of Q65 increases because of the voltage drop across R127. When R109 ≒ R131 and R121 ≒ R127, the sum of the collector currents of Q51 and Q55 is equal to the collector current of Q65. Similarly, when the input signal is negative, current flows through Q53 and Q57. When R111 ≒ R129 and R123 ≒ R125, the sum of the collector currents of Q53 and Q57 is equal to the collector current of Q63.



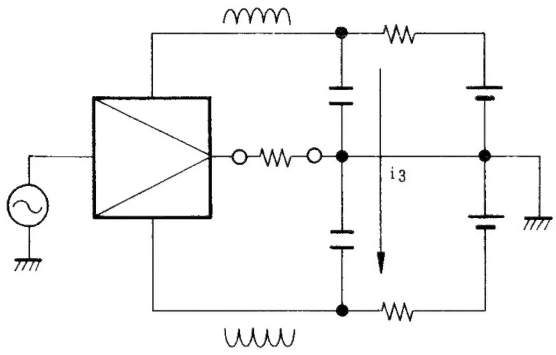

Therefore, current flows through either of the following loops: ⊕ source → Q51 → load Z → Q65 → ⊖ source; or, ⊕ source → Q63 → load Z → Q53 and Q57 → ⊖ source. Thus, the current which flows through load Z does not flows through the ground circuit.

Further, variation in the current flowing through Q51 and Q55 is compensated by variation in the Q63 current; and variation of the Q53 and Q57 current is compensated by that of the Q65 current for small input signal, when the input signal level is low. Therefore, neither source current varies and source impedance is effectively zero.

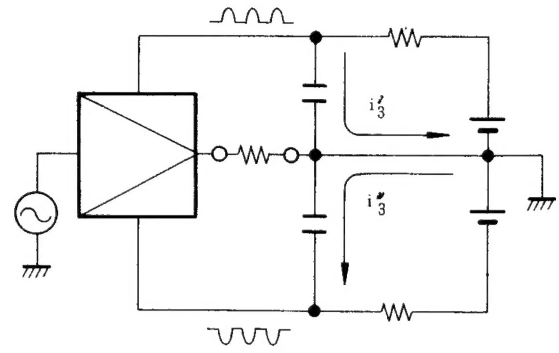



As shown above, no signal current flows through the power source and ground circuits during class A operation. This is true for the ground circuit even if bypass capacitors are included in the power sources.

# CIRCUIT DESCRIPTION

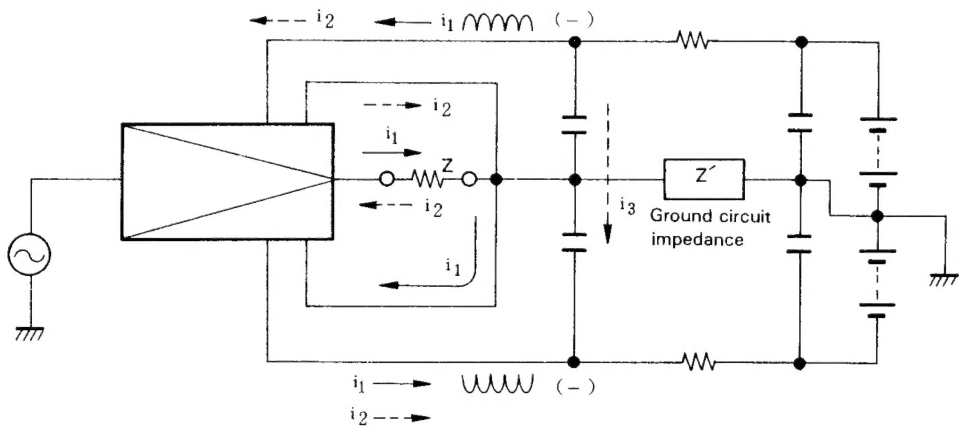



Circuit employed in the L-08C



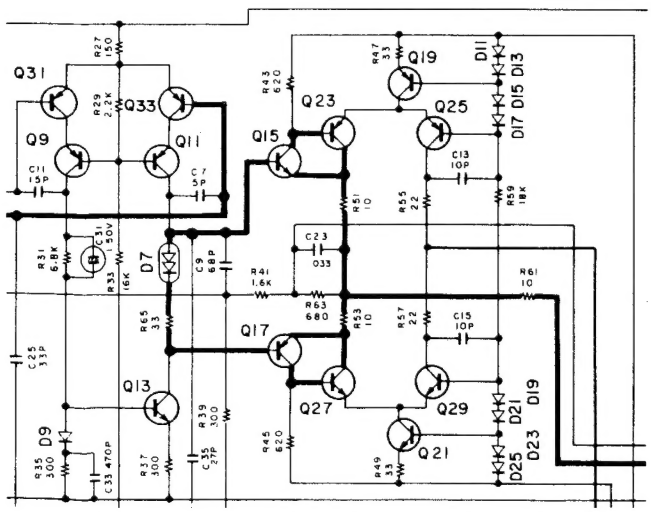

Conventional circuit

In the conventional circuit, current flows through each bypass capacitor to the ground circuit and this may influence the tone; when so, the tone may change when the capacitor is changed. In the L-08C, these bypass capacitors have no influence upon sound quality.




**2. Flat Amplifier**

A current absorbing circuit using differential amplifiers is used in the final stage of each flat amplifier. Q19 and Q21 are the constant current transistors connected to the ⊕ and ⊖ sources, respectively. D11, D13, D15, D17, D19, D21, D23 and D25 are bias diodes.



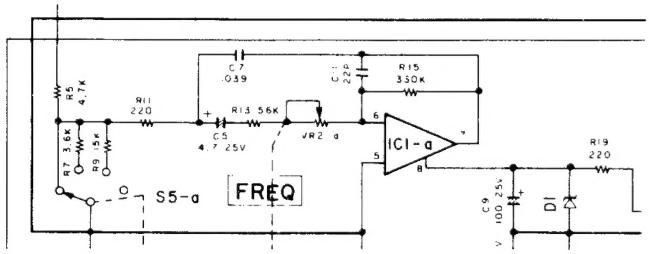

When the input voltage is positive, Q15 and Q23 collector currents increase. Since Q23 and Q25 form a differential amplifier, the increase in Q23 current is equal to the decrease in Q25 current. Therefore, the current of the ⊕ source does not vary. Although the Q17 and Q27 currents decrease, the Q29 current increases so that the ⊖ source current does not vary either. The output current flows through Q23, load Z and Q29 and does not flow through the ground circuit.

The circuit operates in a similar manner when the input voltage is negative: the increase in Q27 current is equal to the decrease in Q29 current and the decrease in Q23 current is equal to the increase in Q25 current. Thus, neithersource current varies and no signal current flows through the ground circuit.

The flat amp has a light load compared to the equalizer circuit at high frequencies. Therefore, only class A operation may be considered for this current absorbing circuit for the same effect as that of the equalizer circuit.

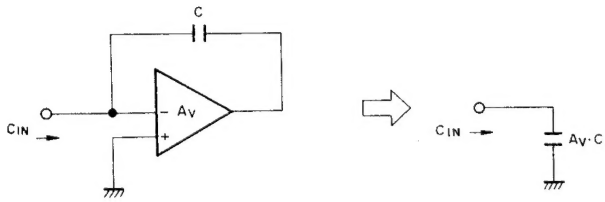
# CIRCUIT DESCRIPTION

## Loundness Control




The L-08C is not equipped with a tone control circuit; a variable frequency loudness control is used to control low frequencies.

The loudness level of this circuit is varied in 3 levels by selecting one of the three resistors. The section which corresponds to capacitor in an ordinary loudness control is a Miller circuit which uses a variable output operational amplifier.

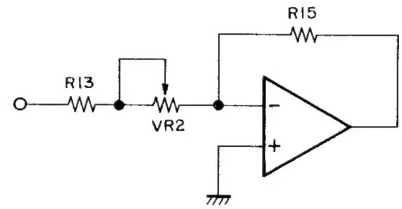



In the above figure, when capacitor C is connected to the parallel negative-feedback circuit, response is lowered at higher frequency levels. The input impedance of the circuit is capacitive and its equivalent capacitance is given by

$$C_{IN} = A_V \cdot C$$

where $A_V$: gain of amplification

Thus, equivalent input capacitance is large even if the capacitor used is small.




The equivalent input capacitance can be varied by varying the gain of amplification. In the circuit of the L-08C, the gain of amplification is

$$A_V = R15/(R13 + VR2)$$

Therefore, equivalent input capacitance is given by

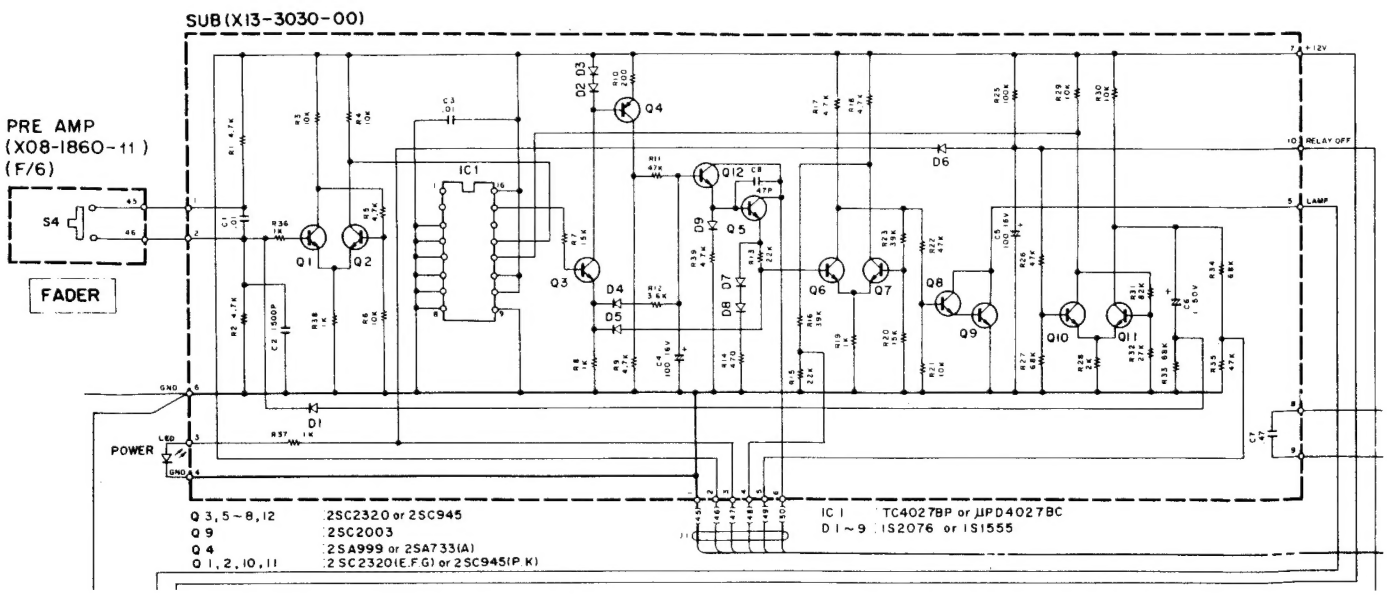
$$C_{IN} = C \cdot R15/(R13 + VR2) \qquad (\mu F)$$

$C_{IN}$ corresponds to the capacitor in a conventional loudness control.

## Fader Circuit

The fader circuit is divided into two sections: one is on the SUB PCB (X13-3030-00) and the other on the PREAMP PCB (X08-1860-11) (C/6).

The circuit block on the SUB PCB controls fader operation; that is, it generates the fader control signals, the output relay signals and the fader relay switching signals, etc. The circuit block on the PREAMP PCB consists of a fader circuit whose amplification is controlled by a photocoupler and various relays.

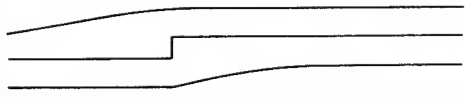


# CIRCUIT DESCRIPTION

### 1. Circuit operation on the SUB PCB

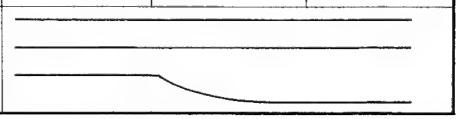
Q10 and Q11 form a Schmitt circuit. Q10 is OFF and Q11 is ON immediately after the power has been turned ON. The Q10 collector level is "H" and the fader flip-flop R (Reset) terminal (IC1-12) level is also "H". Therefore, the level of the flip-flop Q (output) terminal (IC1-15) is "L". Since Q3, Q4, Q12 and Q5 are OFF, Q12 and Q5 collector currents do not flow. (These collector currents control attenuation of the fader circuit. The fader output is proportional to these collector current; when they are zero, fader output is zero). Q1 and Q2 also form a Schmitt circuit, and Q1 OFF and Q2 is ON. Therefore, the fader flip-flop CK terminal connected to the Q2's collector is supplied with a "L" level signal. Q6 and Q7 form another Schmitt circuit, and Q6 is OFF and Q8 and Q9 are ON. Since Q7 is ON, its collector level is "L".

After the power has been turned ON and C5 has been charged through R25, Q10 is turned ON and Q11 OFF. The Q11's collector level then rises and its variation is transferred to the Q1's base through C6 and D1. Thus, Q1 is turned ON and Q2 OFF. The Q2's collector level is "H", so the fader flip-flop CK terminal (IC1-13) level is "H" and the Q terminal (IC1-15) level is turned to "H". Since Q3 is ON, current flows through Q4 to charge C4. Therefore, Q12 is turned ON first, then Q5 is turned ON and their collector currents increase so that the fader circuit output level is gradually increased from maximum attenuation. The Q5's emitter current increases as its collector current increases and its emitter level rises. Thus, the Q6's base level increases to turn Q6 ON so that Q7 is OFF. Therefore, Q8 and Q9 are OFF and the Q7's collector level is "H". The fader circuit is disconnected from the signal at this time and the L-08C operates normally.

| | Power ON (Fader SW pressed) → Listening | | | |
|---|---|---|---|---|
| Q10<br>Q11 | OFF<br>ON | ON<br>OFF | ON<br>OFF | ON<br>OFF |
| Q1<br>Q2 | OFF<br>ON | ON→OFF<br>OFF→ON | OFF<br>ON | OFF<br>ON |
| Q3, Q4 | OFF | ON | ON | ON |
| Q12<br>Q15 | OFF<br>OFF | ON<br>OFF | ON<br>ON | ON<br>ON |
| Q6<br>Q7 | OFF<br>ON | OFF<br>ON | OFF→ON<br>ON→OFF | ON<br>OFF |
| Q8, Q9 | ON | ON | ON→OFF | OFF |
| IC1-12(R)<br>IC1-13(CK)<br>IC1-15(Q) | H<br>L<br>L | L<br>H → L<br>H | L<br>L<br>H | L<br>L<br>H |
| C5<br>C6<br>C4 |  | | | |

When fader switch S4 is pressed while the fader circuit is at maximum attenuation (that is, when the output level is zero), a positive voltage is applied to the Q1's base and the operation described above is performed.

When fader switch S4 is pressed during normal listening, Q1 is turned ON and Q2 OFF. The fader flip-flop CK terminal level then rises to "H". The Q terminal level, which is "H" at this time, changes to "L". Therefore, Q3 and Q4 are turned OFF and C4 discharges through R12. At the same time Q6 is turned OFF so that Q8, Q9 and Q7 are turned ON. The Q12's and Q5's collector currents decrease as C4 discharges. Therefore, the fader output level decreases until the collector currents become zero and fader output ceases.

| | Listening → Fader SW pressed → Output "0" | | |
|---|---|---|---|
| Q10<br>Q11 | ON →<br>OFF → | | |
| Q1<br>Q2 | OFF<br>ON | ON → OFF<br>OFF → ON | OFF<br>ON |
| Q3, Q4 | ON | OFF | OFF |
| Q12<br>Q15 | ON<br>ON | ON → OFF<br>OFF | OFF<br>OFF |
| Q6<br>Q7 | ON<br>OFF | OFF<br>ON | OFF<br>ON |
| Q8, Q9 | OFF | ON | ON |
| IC1 – 12(R)<br>IC1 – 13(CK)<br>IC1 – 15(Q) | L<br>L<br>H | L<br>H → L<br>L | L<br>L<br>L |
| C5<br>C6<br>C4 |  | | |

### 2. Circuit operation on the PREAMP PCB

Five relays are employed on the PREAMP PCB as follows:

RL1 .....Fader circuit output ON/OFF relay

RL2, RL3 .....Switch the signal path between the fader circuit and the through circuit (for normal listening).

RL4 .....Sigma drive ON/OFF

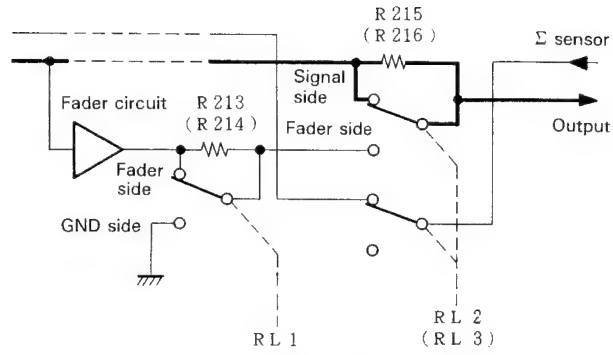
RL5 .....Headphone circuit ON/OFF

A fader circuit consisting of variable output operational amplifiers and an LED-CdS device (PHC 1) is connected to the signal circuit only when the fader circuit is operating.

# CIRCUIT DESCRIPTION

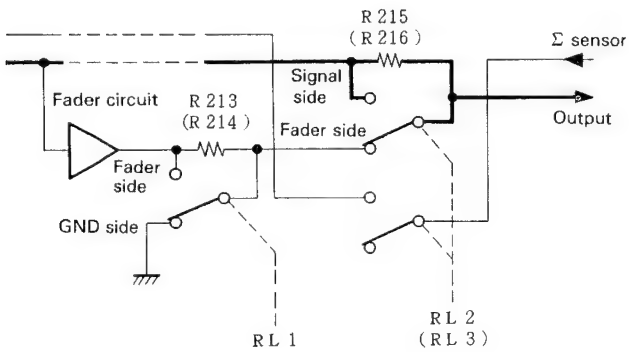
**Relays RL1 through RL3 (fader and signal system)**

RL1 through RL3 are controlled by signals from the circuit on the SUB PCB. When the power is OFF, the RL1 common contacts are in contact with the GND side contacts and the RL2 and RL3 common contacts in contact with the fader side contacts. After the power has been turned ON, Q11 on the SUB PCB goes OFF and its collector level rises (see Fig. 1). This level is applied to the Q105 base through J1-(49) to turn ON Q105 first, then Q106. The Q106's collector is connected to the RL1 coil through the power switch and the headphone jack switch. Therefore, RL1 is energized so that the common contacts make contact with the fader side contacts. At the same time, the fader circuit starts operating to increase the output volume level. When the volume level nears maximum (or when fader attenuation drops to minimum), Q7 on the SUB PCB is turned OFF. Since its collector level is applied to the Q103's base through J1-(48), Q103 then Q102 are turned ON. Thus, RL2 and RL3 are energized so that their common contacts make contact with the signal side contacts. As a result, the signal is transferred to the output terminal without passing through the fader circuit. This is the normal listening state.

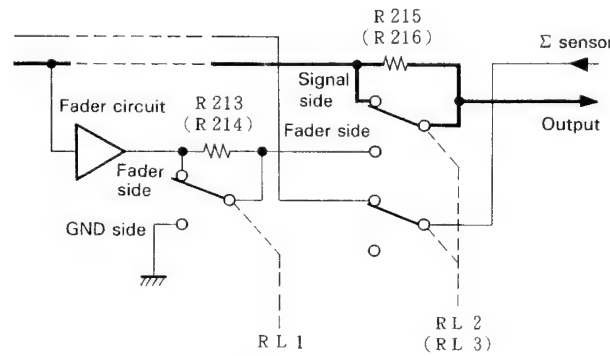



Listening state

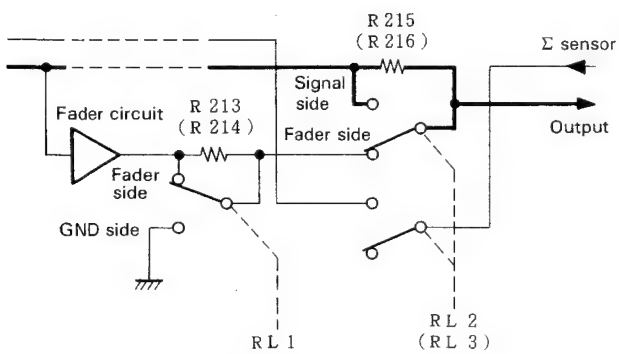
When the fader switch is pressed during normal listening, Q7 on the SUB PCB is immediately turned OFF so that RL2 and RL3 are deenergized. Therefore, their common contacts make contact with the fader side contacts and the signal passes through the fader circuit. The sound volume gradually drops until it reaches the same level as when RL1 was actuated. However, RL1 is not deenergized in this case, so a very low level signal is output when the preset level is at maximum.



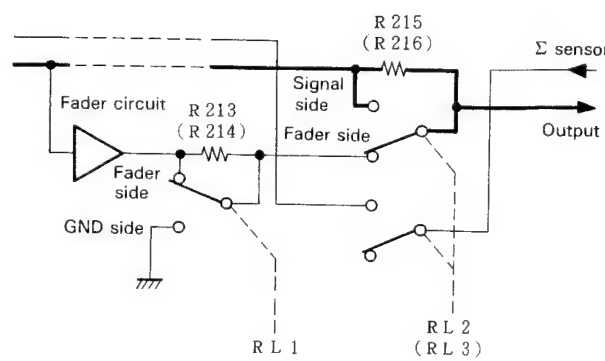

Power OFF state




Listening state




Fader operating state




Fader operating state

# CIRCUIT DESCRIPTION/ADJUSTMENT/REGLAGES/ABGLEICH

**RL4 circuit (Sigma drive ON/OFF)**

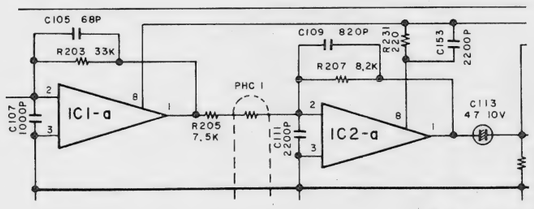
Relay RL4 completes Σ connections when the specified output cords are connected to the Σ drive output terminals.

When the specified cords are not connected, a positive voltage is applied to the Q107's base through R246 so that Q107 is ON and RL4 is energized. Therefore, R217 and R218 are shorted and the ⊖ side of the Σ sensor is grounded. When the two specified cords are connected, the Q107's base is grounded so that Q107 is OFF. Therefore, RL4 is not energized and the ⊖ side of the Σ sensor is separated from ground.

**RL5 circuit (headphone circuit)**

RL5 is not energized unless the headphone plug is inserted, so headphone amplifier (IC3) input is not connected to the signal line. When the plug is inserted, RL5 is energized and headphone amplifier input is connected to the fader circuit.

**Fader circuit**




Both IC1 and IC2 are inverting amplifiers. IC1 is a buffer amplifier with a fixed gain of

$$A_{v1} = R203/R202 \fallingdotseq -3 \text{ dB}$$

IC2 is a fader amplifier with variable gain. Its gain is given by

$$A_{v2} = R207/(R205 + PHC1)$$

PHC1 is the resistance of CdS in photocoupler PHC1. The amount of light emitted by the LED increases and the resistance of CdS decreases as the LED current increases. Therefore, $A_{v2}$ varies according to the LED current. The CdS resistance varies from a few ohms to a few MΩ so $A_{v2}$ varies from 3 dB to more than −60 dB.

The LED current (the sum of the Q12's and Q5's collector currents) gradually increases when the state is changed from the fader operating state to the listening state and vice versa.

## ADJUSTEMENT

| NO. | ITEM | SYSTEM CONNECTIONS | TEST EQUIPMENT SETTING | AMP SETTING | ALIGNMENT POINTS | ALIGN FOR | FIG. |
|---|---|---|---|---|---|---|---|
| 1 | OFFSET (PREAMP: X08-) | Connect a DC voltmeter between TP (L) and GND (TP (R) and GND). | – | VOLUME: 0 | VR1 (L) VR2 (R) | 0V | |
| 2 | OFFSET (AUDIO: X09-) | Connect a DC voltmeter between TP (L) and GND (TP (R) and GND). | – | VOLUME: 0 | VR2 (L) VR3 (R) | 0V | |

## REGLAGES

| N°. | ITEM | RACCORDEMENTS DU SYSTÈME | RÉGLAGE DE L'APPAREILLAGE | RÉGLAGE DU AMPLI | POINT DE L'ALIGNEMENT | ALIGNER POUR | FIG. |
|---|---|---|---|---|---|---|---|
| 1 | OFFSET (PREAMP: X08-) | Connecter un voltmètre CC entre TP (L) et GND (TP (R) et GND). | – | VOLUME: 0 | VR1 (L) VR2 (R) | 0V | |
| 2 | OFFSET (AUDIO: X09-) | Connecter un voltmètre CC entre TP (L) et GND (TP (R) et GND). | – | VOLUME: 0 | VR2 (L) VR3 (R) | 0V | |

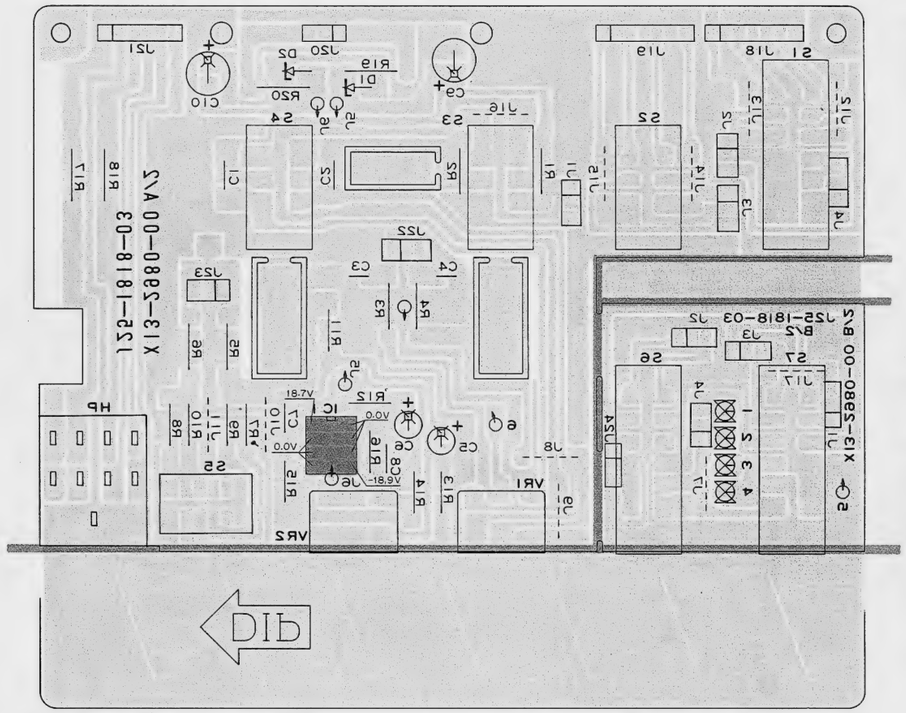
## ABGLEICH

| NR. | GEGENSTAND | SYSTEM-ANSCHLÜSSE | PRÜFEINRICHTUNG-EINSTELLUNG | EINSTELLUNG | ABGLEICH-PUNKTE | ABGLEICHEN FÜR | ABB. |
|---|---|---|---|---|---|---|---|
| 1 | OFFSET (PREAMP: X08-) | Einen Gleichspannungsmesser zwischen TP (L) und GND (TP (R) und GND). | – | VOLUME: 0 | VR1 (L) VR2 (R) | 0V | |
| 2 | OFFSET (AUDIO: X09-) | Einen Gleichspannungsmesser zwischen TP (L) und GND (TP (R) und GND). | – | VOLUME: 0 | VR2 (L) VR3 (R) | 0V | |

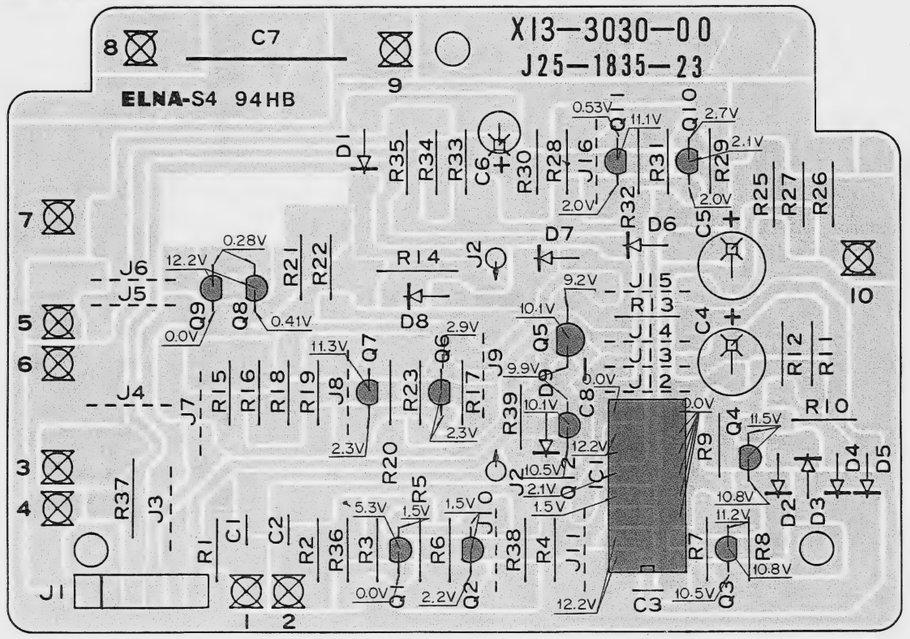


# PC BOARD

**SWITCH (X13-2980-00) Foil side view**

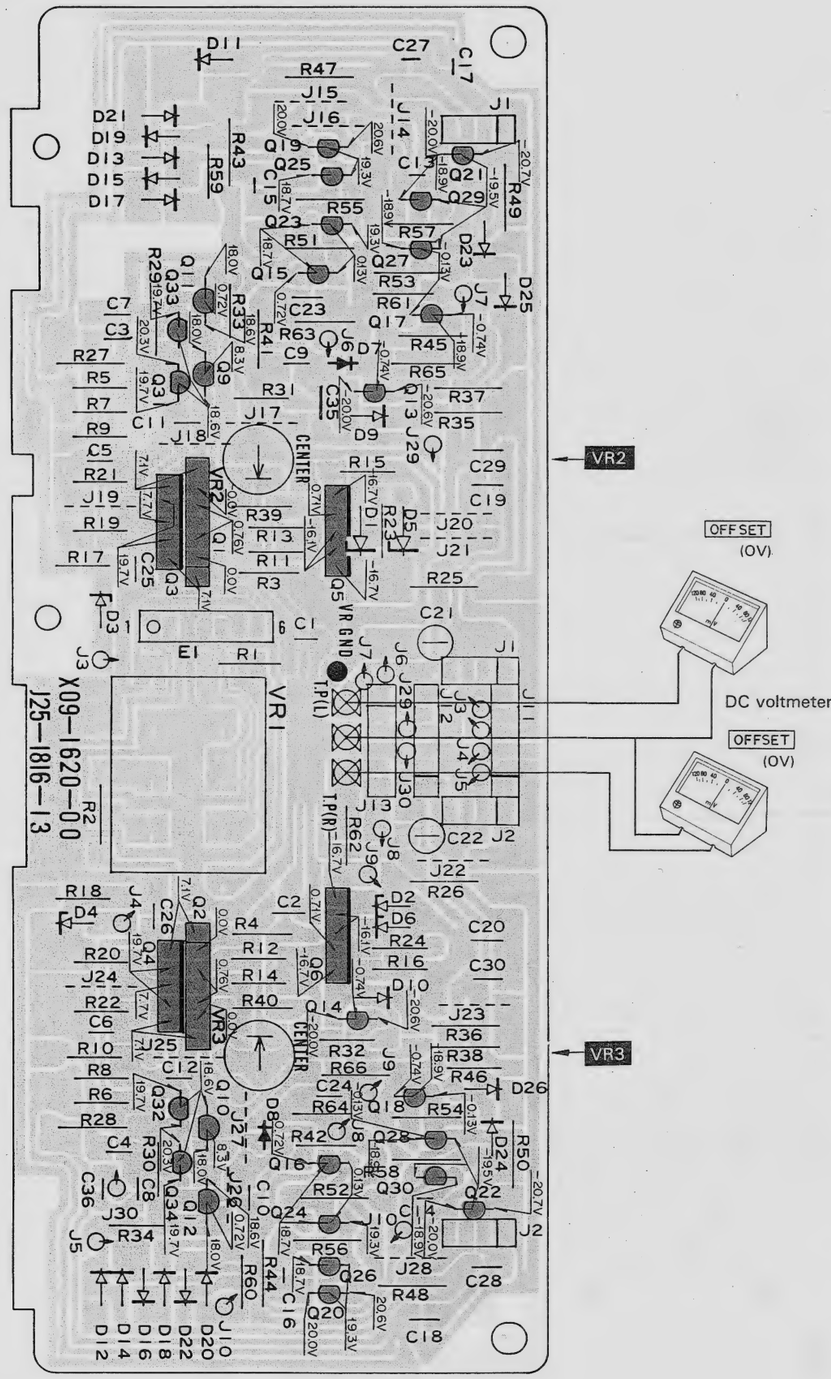



**SUB (X13-3030-00) Component side view**

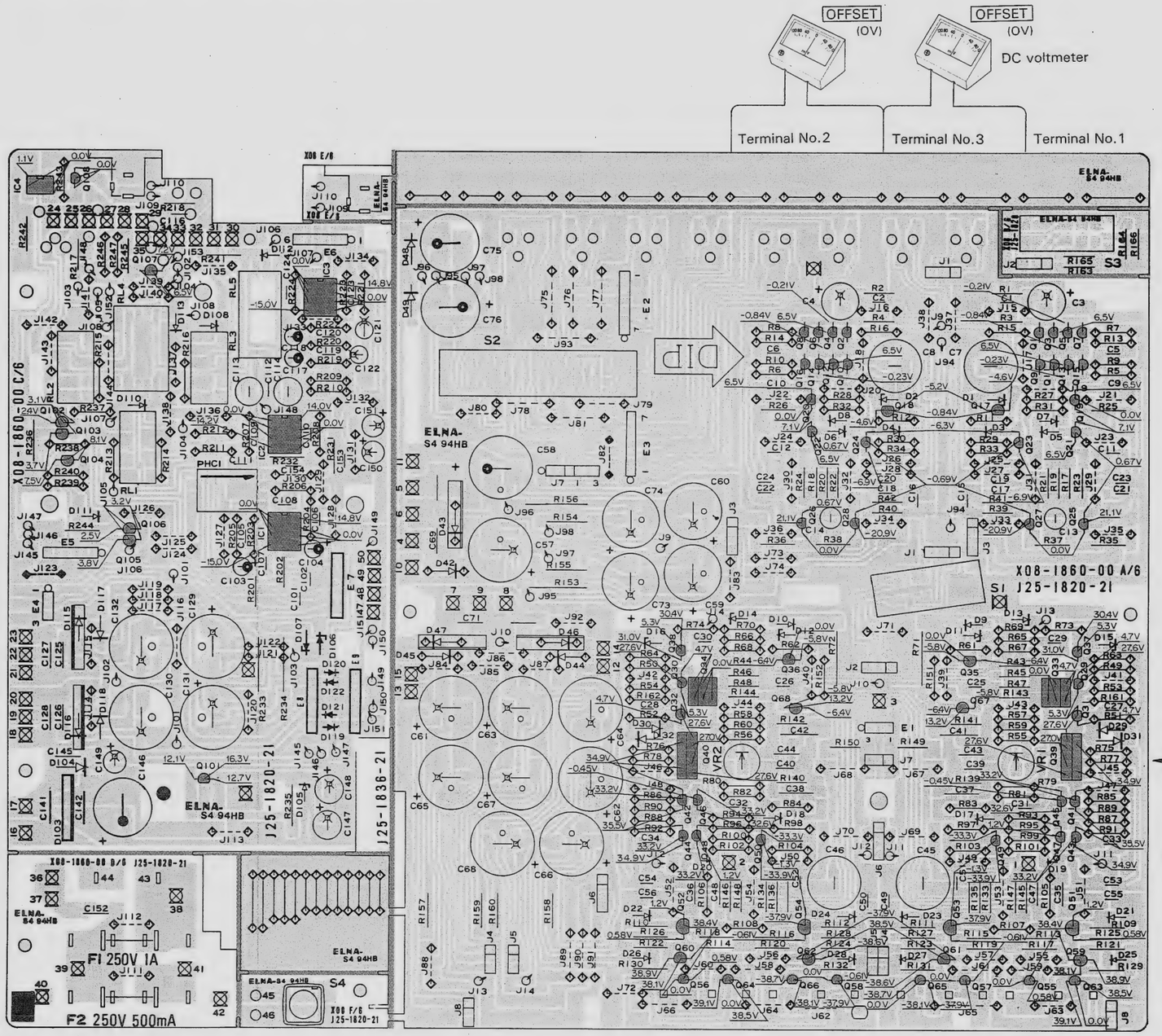


# PC BOARD

## PREAMP (X08-186*-**) Component side view




## AUDIO (X09-162*-**) Component side view

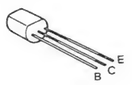



Refer to the schematic diagram for the value of resistors and capacitors.

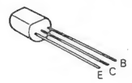
KENWOOD®

# CONTROL AMPLIFIER

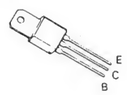
2SC1735



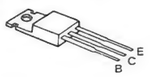

2SA684 2SC1348
2SA733(A) 2SC1844
2SA992 2SC1845
2SA999 2SC2003
2SA1023 2SC2320
2SA1123 2SC2378
2SA1124 2SC2545
2SC945 2SC2631



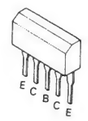

2SC2167




2SA913 2SC2591
2SA1111 2SC2632
2SC1913 2SD762

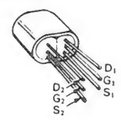



2SC2291

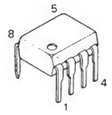



μPA68H

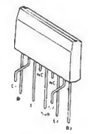

2SK146



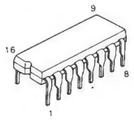

NJM4556D
NJM4558D
NJM4560D



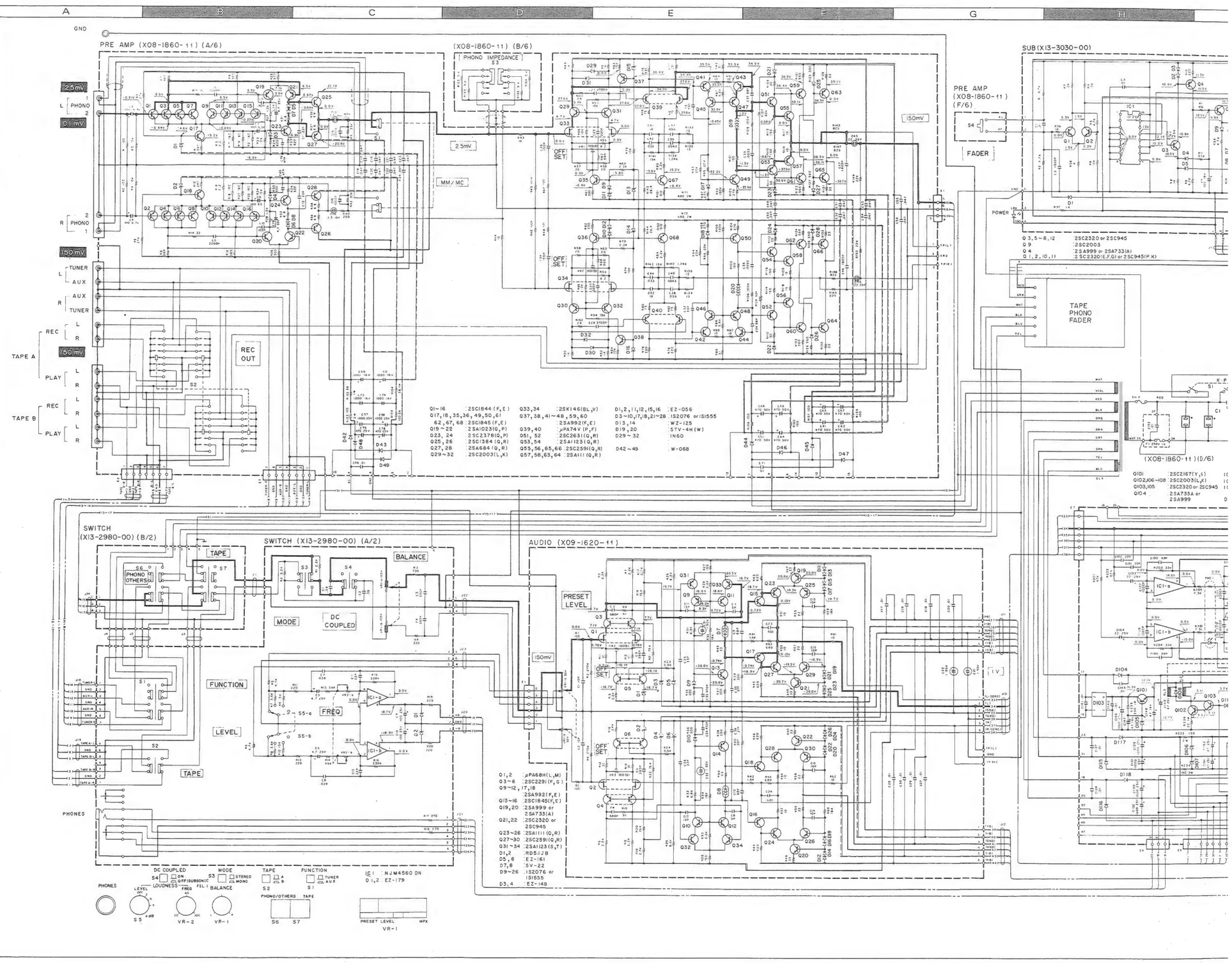

μPA74V



TC4027BP
μPD4027C
MC14027BCP

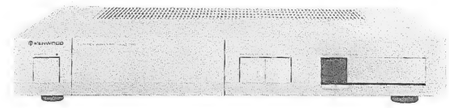



| Name | Substitution |
|---|---|
| **(X08)** | |
| 2SA733(A) | 2SA999 |
| 2SA1111(Q, R) | 2SA913(Q, R) |
| 2SA1123(Q, R) | 2SA1124(Q, R) |
| 2SC1844(F, E) | 2SC2545(D, E) |
| 2SC2003(L, K) | 2SC1735(D, E) |
| 2SC2167(Y, G) | 2SD762(O) |
| 2SC2320 | 2SC945 |
| 2SC2591(Q, R) | 2SC1913(Q, R) |
| 2SC2631(Q, R) | 2SC2632(Q, R) |
| W06B | V06B |
| 1S2076 | 1S1555, 1S2076A |
| WZ-125 | XZ-127 |
| DZ-140 | BZ-140 |
| **(X09, X13)** | |
| 2SA999 | 2SA733(A) |
| 2SA1123(S, T) | 2SA1124(S, T) |
| 2SA1111(Q, R) | 2SA913(Q, R) |
| 2SC2320 | 2SC945 |
| 2SC2591(Q, R) | 2SC1913(Q, R) |
| SV-22 | STV-2H |
| 1S2076 | 1S1555, 1S2076A |
| TC4027BP | μPD4027C, MC14027BCP |



# CONTROL AMPLIFIER

# L-08C



## SPECIFICATIONS

**PERFORMANCE**

**Input Sensitivity/Impedance/Signal-to-Noise Ratio (IHF A Curve)**
- **Phono 1 (for MM use)**: 2.5 mV/33-47-100 kohms/ 90 dB
- **Phono 2 (for MC use)**: 0.1 mV/ 100 ohms/ 70 dB
- **Tuner/AUX**: 150 mV/ 25 kohms/106 dB
- **Tape Play**: 150 mV/ 25 kohms/106 dB

**Maximum Input Voltage for Phono 1**: 320 mV (RMS), T.H.D. 0.0007% at 1,000 Hz

**Maximum Input Voltage for Phono 2**: 14 mV (RMS), T.H.D. 0.0007% at 1,000 Hz

**Frequency Response**: RIAA Standard Curve
- **Phono 1 & 2**: ±0.2 dB (20 Hz~20 kHz)
- **Tuner, AUX & Tape Play**: DC~850 kHz (+0 dB, −3 dB)

**Subsonic Filter**: 18 Hz, 6 dB/Octave

**Transient Response**
- **Rise Time**
- **± 0.1 V**: 0.4 μs
- **± 1.0 V**: 0.4 μs
- **± 2.5 V**: 0.4 μs

**Total Harmonic Distortion**
- **Tuner, AUX & Tape Play**
- **20 Hz~20 kHz**: 0.0007% at 1 V Output
- **20 Hz~20 kHz**: 0.0007% at 3 V Output
- **20 Hz~20 kHz**: 0.0008% at 10 V Output
- **10 Hz~100 kHz**: 0.0008% at 1 V Output
- **Phono 1 (for MM use)**
- **20 Hz~20 kHz**: 0.0007% at 1 V Output (VOLUME at −30 dB)
- **Phono 2 (for MC use)**
- **20 Hz~20 kHz**: 0.0007% at 1 V Output (VOLUME at −30 dB)

**Output Voltage & Impedance**: 1 V/less than 0.03 ohms with Sigma-Drive; 1 V/less than 10 ohms without Sigma-Drive
- **Maximum Output**: 10 V

**Load Impedance**: 50 kohms

**GENERAL**

**Power Requirement**: 60 Hz 120 V (U.S.A. & Canada Model). Model sold elsewhere incorporates switch to accommodate 50/60 Hz 110-120 V/220-240 V

**Power Consumption**: 4A (UL and CSA); 50 W (IEC)

**AC Outlet**: 1 Unswitched, 2 Switched

**Dimensions**: W 17-5/16″ (440 mm); H 2-15/16″ (74 mm); D 15-1/4″ (387 mm)

**Weight (Net)**: 11.7 lbs (5.3 kg)
**(Gross)**: 19.2 lbs (8.7 kg)

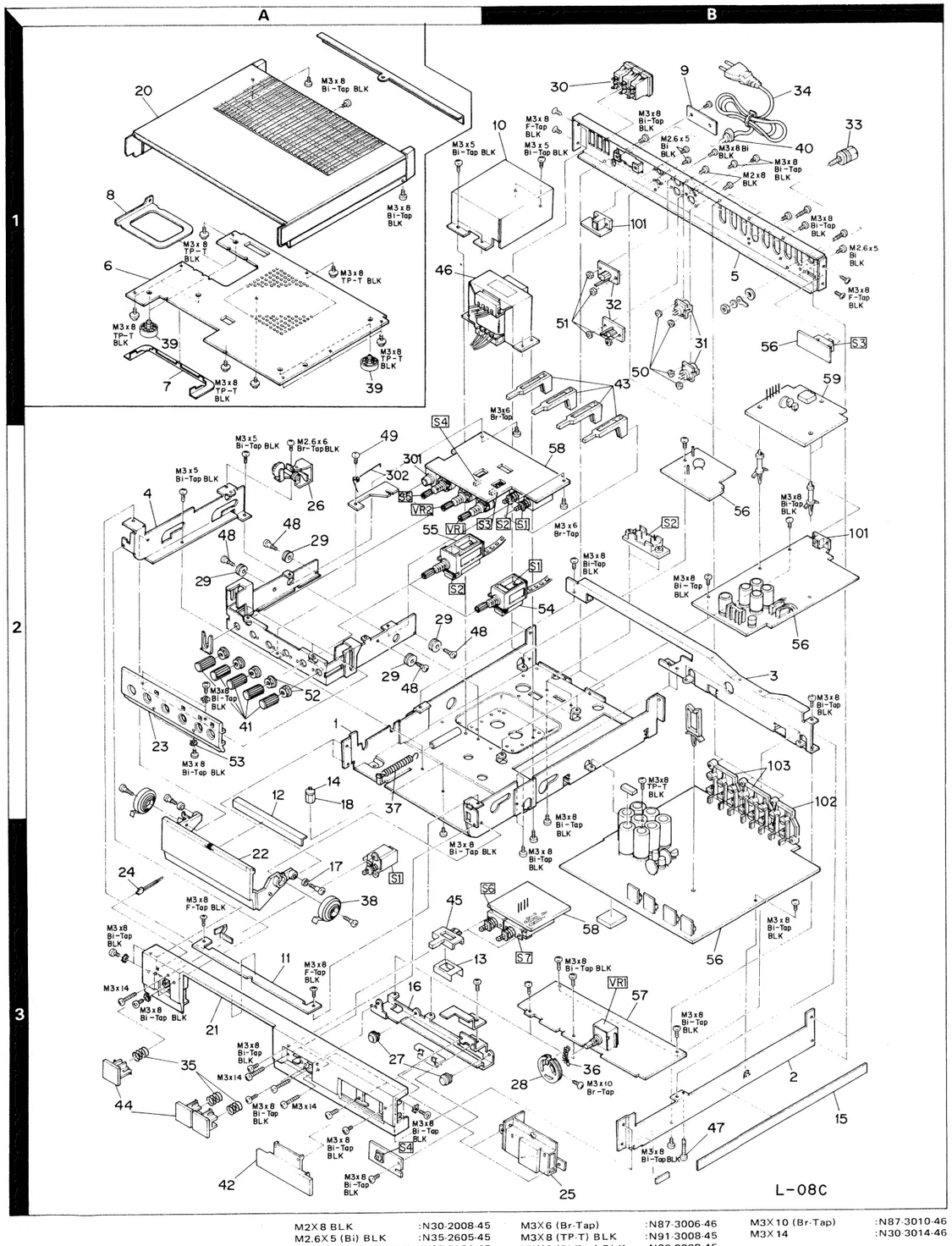
Kenwood follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

Kenwood poursuit une politique de progrès constants en ce qui concerne le développement. Pour cette raison, les spécifications sont sujettes à modifications sans préavis.

Kenwood strebt ständige Verbesserungen in der Entwicklung an. Daher bleiben Änderungen der technischen Daten jederzeit vorbehalten.

DC voltages are measured by VOM of 20 kΩ/V input impedance.

## EXPLODED VIEW




M2X8 BLK :N30-2008-45
M2.6X5 (Bi) BLK :N35-2605-45
M2.6X6 (Bi-Tap) BLK :N87-2606-45
M3X5 (Bi-Tap) BLK :N89-3005-45
M3X6 (Br-Tap) :N87-3006-46
M3X8 (TP-T) BLK :N91-3008-45
M3X8 (Bi-Tap) BLK :N89-3008-45
M3X8 (F-Tap) BLK :N88-3008-45
M3X10 (Br-Tap) :N87-3010-46
M3X14 :N30-3014-46

## PARTS LIST

| Ref. No. 参照番号 | Parts No. 部品番号 | Description 部品名／規格 | Remarks 備考 |
|---|---|---|---|
| **L-08C UNIT** | | | |
| 1 2A | - | MAIN CHASSIS | |
| 2 3B | - | METALLIC FRAME | |
| 3 2B | - | METALLIC FRAME | |
| 4 2A | - | METALLIC FRAME | |
| 5 1B | - | REAR PANEL | |
| 6 1A | - | BOTTOM PLATE | |
| 7 1A | - | ESCUTCHEON | |
| 8 1A | - | ESCUTCHEON | |
| 9 1B | - | MODEL NAME PLATE | |
| 10 1B | - | SHIELDING CASE | |
| 11 3A | - | REINFORCING HARDWARE | |
| 12 2A | - | REINFORCING HARDWARE | |
| 13 3A | - | SLIGER | |
| 14 2A | - | CLOTH | |
| 15 2A | - | CLOTH | |
| 16 3A | - | MOUNTING HARDWARE | |
| 17 3A | - | COLLAR | |
| 18 2A | - | BOSS | |
| 20 1A | A02-0072-11 | PLASTIC CABINET | * |
| 21 3A | A20-1751-12 | FRONT PANEL | *K |
| 21 3A | A20-1751-12 | FRONT PANEL | PM |
| 21 3A | A20-1751-12 | FRONT PANEL | E |
| 21 3A | A20-1752-12 | FRONT PANEL | *T |
| 22 3A | A53-0033-13 | POCKET DOOR | * |
| 23 2A | A53-0034-03 | FRONT PANEL(A) | * |
| - | B46-0055-30 | WARRANTY CARD | P |
| - | B46-0060-00 | WARRANTY CARD | T |
| - | B46-0061-30 | WARRANTY CARD | K |
| - | B50-3286-00 | INSTRUCTION MANUAL | *K |
| - | B50-3287-00 | INSTRUCTION MANUAL | PM |
| - | B50-3289-00 | INSTRUCTION MANUAL | T |
| - | B50-3290-00 | INSTRUCTION MANUAL | E |
| 24 3A | B30-0265-05 | LED | * |
| 25 3B | B38-0024-05 | DISPLAY ASSY | * |
| C1 | C91-0023-05 | CERAMIC 0.01UF AC250V | M |
| C1 | C91-0079-05 | CERAMIC 0.01UF AC125V | KP |
| C1 | C91-0079-05 | CERAMIC 0.01UF AC125V | TE |
| 26 2A | D13-0219-05 | GEAR ASSY | * |
| 27 3A | D15-0175-05 | SMALL PULLEY | |
| 28 3B | D15-0180-13 | PULLEY | * |
| 29 2A | D15-0181-04 | PULLEY | * |
| - | E14-0006-05 | PHONO PLUG | |
| 30 1B | E03-0017-05 | AC OUTLET | K |
| 30 1B | E03-0031-05 | AC OUTLET | PM |
| 31 1B | E06-0605-05 | OUTPUT JACK | |
| 32 1B | E13-0115-15 | PHONO JACK | |
| 33 1B | E21-0149-05 | GND TERMINAL | |
| 34 1B | E30-0181-05 | POWER CORD | KP |
| 34 1B | E30-0459-05 | POWER CORD | E |
| 34 1B | E30-0587-15 | POWER CORD | T |
| 34 1B | E30-0685-05 | POWER CORD | M |
| 35 3A | G01-0407-04 | COILED SPRING | |
| 36 3B | G01-0409-04 | COILED SPRING | * |
| 37 2A | G01-0410-04 | COILED SPRING | |
| 38 3A | G02-0081-04 | SPIRAL SPRING | |
| - | H01-3250-04 | CARTON BOX | |
| - | H10-1570-02 | POLYSTYRENE FIXTURE | |
| - | H12-0082-04 | PACKING FIXTURE | |
| - | H12-0083-04 | PACKING FIXTURE | |

| Ref. No. 参照番号 | Parts No. 部品番号 | Description 部品名／規格 | Remarks 備考 |
|---|---|---|---|
| - | H12-0086-04 | PACKING FIXTURE | |
| - | H20-0458-04 | COVER | |
| - | H25-0078-04 | BAG (235X315) | |
| - | H25-0097-04 | BAG | |
| - | H39-0015-05 | PACKING PARTS | |
| 39 1A | J02-0088-05 | FOOT | |
| 40 1B | J41-0033-05 | BUSHING | MT |
| 40 1B | J41-0033-05 | BUSHING | E |
| 40 1B | J41-0034-05 | BUSHING | KP |
| 41 2A | K23-0352-04 | KNOB | * |
| 42 3A | K27-0195-14 | KNOB (FADER) | * |
| 43 1B | K27-0196-04 | KNOB (PUSH BUTTON) | * |
| 44 3A | K27-0197-14 | KNOB (POWER) | * |
| 45 3A | K29-0384-14 | KNOB (PRESET) | * |
| 46 1A | L01-2221-05 | POWER TRANSFORMER | *K |
| 46 1A | L01-2225-05 | POWER TRANSFORMER | M |
| 46 1A | L01-2226-05 | POWER TRANSFORMER | TE |
| 46 1A | L01-2227-05 | POWER TRANSFORMER | P |
| - | N09-0100-14 | SCREW | |
| 47 3B | N09-0292-05 | SCREW | |
| 48 2A | N09-0293-05 | SCREW (M2.6X14) | |
| 49 2A | N09-0372-04 | SCREW | * |
| 50 1B | N10-2020-46 | HEXAGON NUT | |
| 51 1B | N10-2030-46 | HEXAGON NUT | |
| 52 2A | N14-0123-05 | NUT | |
| 53 2A | N19-0308-05 | WASHER | * |
| R1 ,2 | R48-2210-05 | RN 10 J 2E | |
| 54 2A,2B | S90-0052-05 | REMOTE SWITCH SHAFT | * |
| 55 2A,2B | S90-0053-05 | REMOTE SWITCH SHAFT | * |
| S1 | S40-2099-05 | PUSH SWITCH | TE |
| S1 | S40-3014-05 | PUSH SWITCH | M |
| S1 | S40-3015-05 | PUSH SWITCH | KP |
| S2 | S31-2053-05 | SLIDE SWITCH | ME |
| 56 2B,3B | X08-1860-11 | PRE AMP PCB ASSY | *K |
| 56 2B,3B | X08-1860-11 | PRE AMP PCB ASSY | P |
| 56 2B,3B | X08-1860-21 | PRE AMP PCB ASSY | M |
| 56 2B,3B | X08-1860-51 | PRE AMP PCB ASSY | T |
| 56 2B,3B | X08-1862-71 | PRE AMP PCB ASSY | E |
| 57 3B | X09-1620-00 | AUDIO AMP PCB ASSY | *P |
| 57 3B | X09-1620-00 | AUDIO AMP PCB ASSY | MT |
| 57 3B | X09-1620-00 | AUDIO AMP PCB ASSY | E |
| 57 3B | X09-1620-11 | AUDIO AMP PCB ASSY | K |
| 58 2B,3B | X13-2980-00 | SWITCH PCB ASSY | * |
| 59 1B | X13-3030-00 | SUB PCB ASSY | * |
| **PREAMP (X08-186*-**)** | | | |
| C3 ,4 | C90-0452-05 | ELECTRO 100UF 6,3WV | |
| C5 ,6 | C91-0103-05 | POLYSTY 2200PF J | |
| C7 ,8 | C90-0452-05 | ELECTRO 100UF 6,3WV | |
| C9 ,10 | C91-0088-05 | POLYSTY 100PF K | |
| C11 ,12 | C91-0170-05 | POLYSTY 22PF K | |
| C13 ,14 | C90-0529-05 | LL-ELEC 3,3UF 16WV | * |
| C15 ,16 | C91-0100-05 | POLYSTY 1000PF J | |
| C17 -24 | C55-1747-38 | CERAMIC 0,047UF Z | |
| C25 ,26 | C91-0090-05 | POLYSTY 150PF J | |
| C27 ,28 | C91-0104-05 | POLYSTY 2700PF J | |
| C29 ,30 | C91-0092-05 | POLYSTY 220PF J | |
| C31 ,32 | C91-0175-05 | POLYSTY 56PF K | |
| C33 ,34 | C91-0176-05 | POLYSTY 68PF K | |
| C35 ,36 | C49-2033-25 | MYLAR 0,0033UF J | |
| C37 ,38 | C49-2056-34 | MYLAR 0,056UF G | |

K: U.S.A. U: PX E: Europe M: Other area
P: Canada T: England *: New parts

L-08C L-08C

# PARTS LIST

PARTS LIST

| Ref. No. 参照番号 | Parts No. 部品番号 | Description 部品名／規格 | Remarks 備考 |
|---|---|---|---|
| **L-08C UNIT** | | | |
| 1 2A | - | MAIN CHASSIS | |
| 2 3B | - | METALLIC FRAME | |
| 3 2B | - | METALLIC FRAME | |
| 4 2A | - | METALLIC FRAME | |
| 5 1B | - | REAR PANEL | |
| 6 1A | - | BOTTOM PLATE | |
| 7 1A | - | ESCUTCHEON | |
| 8 1A | - | ESCUTCHEON | |
| 9 1B | - | MODEL NAME PLATE | |
| 10 1B | - | SHIELDING CASE | |
| 11 3A | - | REINFORCING HARDWARE | |
| 12 2A | - | REINFORCING HARDWARE | |
| 13 3A | - | SLIGER | |
| 14 2A | - | CLOTH | |
| 15 2A | - | CLOTH | |
| 16 3A | - | MOUNTING HARDWARE | |
| 17 3A | - | COLLAR | |
| 18 2A | - | BOSS | |
| 20 1A | A02-0072-11 | PLASTIC CABINET | * |
| 21 3A | A20-1751-12 | FRONT PANEL | *K |
| 21 3A | A20-1751-12 | FRONT PANEL | PM |
| 21 3A | A20-1751-12 | FRONT PANEL | E |
| 21 3A | A20-1752-12 | FRONT PANEL | *T |
| 22 3A | A53-0033-13 | POCKET DOOR | * |
| 23 2A | A53-0034-03 | FRONT PANEL(A) | * |
| - | B46-0055-30 | WARRANTY CARD | P |
| - | B46-0060-00 | WARRANTY CARD | T |
| - | B46-0061-30 | WARRANTY CARD | K |
| - | B50-3286-00 | INSTRUCTION MANUAL | *K |
| - | B50-3287-00 | INSTRUCTION MANUAL | PM |
| - | B50-3289-00 | INSTRUCTION MANUAL | T |
| - | B50-3290-00 | INSTRUCTION MANUAL | E |
| 24 3A | B30-0265-05 | LED | * |
| 25 3B | B38-0024-05 | DISPLAY ASSY | * |
| C1 | C91-0023-05 | CERAMIC 0.01UF AC250V | M |
| C1 | C91-0079-05 | CERAMIC 0.01UF AC125V | KP |
| C1 | C91-0079-05 | CERAMIC 0.01UF AC125V | TE |
| 26 2A | D13-0219-05 | GEAR ASSY | * |
| 27 3A | D15-0175-05 | SMALL PULLEY | |
| 28 3B | D15-0180-13 | PULLEY | * |
| 29 2A | D15-0181-04 | PULLEY | * |
| - | E14-0006-05 | PHONO PLUG | |
| 30 1B | E03-0017-05 | AC OUTLET | K |
| 30 1B | E03-0031-05 | AC OUTLET | PM |
| 31 1B | E06-0605-05 | OUTPUT JACK | |
| 32 1B | E13-0115-15 | PHONO JACK | |
| 33 1B | E21-0149-05 | GND TERMINAL | |
| 34 1B | E30-0181-05 | POWER CORD | KP |
| 34 1B | E30-0459-05 | POWER CORD | E |
| 34 1B | E30-0587-15 | POWER CORD | T |
| 34 1B | E30-0685-05 | POWER CORD | M |
| 35 3A | G01-0407-04 | COILED SPRING | |
| 36 3B | G01-0409-04 | COILED SPRING | * |
| 37 2A | G01-0410-04 | COILED SPRING | |
| 38 3A | G02-0081-04 | SPIRAL SPRING | |
| - | H01-3250-04 | CARTON BOX | |
| - | H10-1570-02 | POLYSTYRENE FIXTURE | |
| - | H12-0082-04 | PACKING FIXTURE | |
| - | H12-0083-04 | PACKING FIXTURE | |
| - | H12-0086-04 | PACKING FIXTURE | |
| - | H20-0458-04 | COVER | |
| - | H25-0078-04 | BAG (235X315) | |
| - | H25-0097-04 | BAG | |
| - | H39-0015-05 | PACKING PARTS | |
| 39 1A | J02-0088-05 | FOOT | |
| 40 1B | J41-0033-05 | BUSHING | MT |
| 40 1B | J41-0033-05 | BUSHING | E |
| 40 1B | J41-0034-05 | BUSHING | KP |
| 41 2A | K23-0352-04 | KNOB | * |
| 42 3A | K27-0195-14 | KNOB (FADER) | * |
| 43 1B | K27-0196-04 | KNOB (PUSH BUTTON) | * |
| 44 3A | K27-0197-14 | KNOB (POWER) | * |
| 45 3A | K29-0384-14 | KNOB (PRESET) | * |
| 46 1A | L01-2221-05 | POWER TRANSFORMER | *K |
| 46 1A | L01-2225-05 | POWER TRANSFORMER | M |
| 46 1A | L01-2226-05 | POWER TRANSFORMER | TE |
| 46 1A | L01-2227-05 | POWER TRANSFORMER | P |
| - | N09-0100-14 | SCREW | |
| 47 3B | N09-0292-05 | SCREW | |
| 48 2A | N09-0293-05 | SCREW (M2.6X14) | |
| 49 2A | N09-0372-04 | SCREW | * |
| 50 1B | N10-2020-46 | HEXAGON NUT | |
| 51 1B | N10-2030-46 | HEXAGON NUT | |
| 52 2A | N14-0123-05 | NUT | |
| 53 2A | N19-0308-05 | WASHER | * |
| R1 ,2 | R48-2210-05 | RN 10 J 2E | |
| 54 2A,2B | S90-0052-05 | REMOTE SWITCH SHAFT | * |
| 55 2A,2B | S90-0053-05 | REMOTE SWITCH SHAFT | * |
| S1 | S40-2099-05 | PUSH SWITCH | TE |
| S1 | S40-3014-05 | PUSH SWITCH | M |
| S1 | S40-3015-05 | PUSH SWITCH | KP |
| S2 | S31-2053-05 | SLIDE SWITCH | ME |
| 56 2B,3B | X08-1860-11 | PRE AMP PCB ASSY | *K |
| 56 2B,3B | X08-1860-11 | PRE AMP PCB ASSY | P |
| 56 2B,3B | X08-1860-21 | PRE AMP PCB ASSY | M |
| 56 2B,3B | X08-1860-51 | PRE AMP PCB ASSY | T |
| 56 2B,3B | X08-1862-71 | PRE AMP PCB ASSY | E |
| 57 3B | X09-1620-00 | AUDIO AMP PCB ASSY | *P |
| 57 3B | X09-1620-00 | AUDIO AMP PCB ASSY | MT |
| 57 3B | X09-1620-00 | AUDIO AMP PCB ASSY | E |
| 57 3B | X09-1620-11 | AUDIO AMP PCB ASSY | K |
| 58 2B,3B | X13-2980-00 | SWITCH PCB ASSY | * |
| 59 1B | X13-3030-00 | SUB PCB ASSY | * |
| **PREAMP (X08-186*-**)** | | | |
| C3 ,4 | C90-0452-05 | ELECTRO 100UF 6.3WV | |
| C5 ,6 | C91-0103-05 | POLYSTY 2200PF J | |
| C7 ,8 | C90-0452-05 | ELECTRO 100UF 6.3WV | |
| C9 ,10 | C91-0088-05 | POLYSTY 100PF K | |
| C11 ,12 | C91-0170-05 | POLYSTY 22PF K | |
| C13 ,14 | C90-0529-05 | LL-ELEC 3.3UF 16WV | * |
| C15 ,16 | C91-0100-05 | POLYSTY 1000PF J | |
| C17 -24 | C55-1747-38 | CERAMIC 0.047UF Z | |
| C25 ,26 | C91-0090-05 | POLYSTY 150PF J | |
| C27 ,28 | C91-0104-05 | POLYSTY 2700PF J | |
| C29 ,30 | C91-0092-05 | POLYSTY 220PF J | |
| C31 ,32 | C91-0175-05 | POLYSTY 56PF K | |
| C33 ,34 | C91-0176-05 | POLYSTY 68PF K | |
| C35 ,36 | C49-2033-25 | MYLAR 0.0033UF J | |
| C37 ,38 | C49-2056-34 | MYLAR 0.056UF G | |
| C39 ,40 | C49-2043-24 | MYLAR 0.0043UF G | |
| C41 ,42 | C49-2018-44 | MYLAR 0.18UF G | |
| C43 ,44 | C49-2033-34 | MYLAR 0.033UF G | |
| C45 ,46 | C90-0528-05 | LL-ELEC 22UF 35WV | * |
| C47 ,48 | C91-0102-05 | POLYSTY 1800PF J | |
| C49 -56 | C55-1747-38 | CERAMIC 0.047UF Z | |
| C57 ,58 | C90-0423-05 | ELECTRO 1000UF 25WV | |
| C59 ,60 | C90-0537-05 | ELECTRO 1000UF 16WV | |
| C61 -68 | C90-0525-05 | ELECTRO 47UF 50WV | * |
| C69 | C54-2710-39 | CERAMIC 0.01UF P | |
| C71 | C54-2710-39 | CERAMIC 0.01UF P | |
| C73 ,74 | C90-0537-05 | ELECTRO 1000UF 16WV | |
| C75 ,76 | C90-0556-05 | ELECTRO 470UF 25WV | |
| C77 ,78 | C90-0457-05 | ELECTRO 4.7UF 35WV | |
| C79 ,80 | C71-1747-05 | CERAMIC 47PF J | |
| C101,102 | C91-0170-05 | POLYSTY 22PF K | |
| C103,104 | C24-1422-67 | ELECTRO 22UF 25WV | |
| C105,106 | C71-1768-05 | CERAMIC 68PF J | |
| C107,108 | C52-1710-26 | CERAMIC 0.001UF K | |
| C109,110 | C52-1782-16 | CERAMIC 820PF K | |
| C111,112 | C52-1722-26 | CERAMIC 0.0022UF K | |
| C113,114 | C26-1047-67 | NP-ELEC 47UF 10WV | |
| C117,118 | C24-1710-57 | ELECTRO 1UF 50WV | |
| C119,120 | C71-1710-15 | CERAMIC 100PF J | |
| C121,122 | C24-1222-67 | ELECTRO 22UF 16WV | |
| C127,128 | C54-2710-39 | CERAMIC 0.01UF P | |
| C129-132 | C90-0423-05 | ELECTRO 1000UF 25WV | |
| C141,142 | C54-2710-39 | CERAMIC 0.01UF P | |
| C145 | C54-2710-39 | CERAMIC 0.01UF P | |
| C146 | C24-1410-87 | ELECTRO 1000UF 25WV | |
| C147,148 | C24-1247-67 | ELECTRO 47UF 16WV | |
| C149-151 | C24-1447-67 | ELECTRO 470UF 25WV | |
| C152 | C91-0023-05 | CERAMIC 0.01UF AC250V | M |
| C152 | C91-0079-05 | CERAMIC 0.01UF AC125V | KP |
| C152 | C91-0079-05 | CERAMIC 0.01UF AC125V | TE |
| C153,154 | C52-1722-26 | CERAMIC 0.0022UF K | |
| 101 1B | E03-0006-05 | DC JACK (REMOTE) | |
| 102 2B | E13-0430-05 | PHONO JACK | * |
| 103 2B | E13-0612-05 | PHONO JACK | |
| F1 | F05-1021-05 | FUSE | K |
| - | J13-0041-05 | FUSE HOLDER | K |
| R1 ,2 | R48-2210-15 | RN 100 J 2E | |
| R3 ,4 | R48-2210-35 | RN 10K J 2E | |
| R17 -22 | R48-6216-15 | RN 160 J 2E | |
| R23 ,24 | R48-6210-35 | RN 10K J 2E | |
| R25 ,26 | R43-1230-15 | FL-PROOF RD300 J 2E | |
| R35 -38 | R43-1268-95 | FL-PROOF RD6.8 J 2E | |
| R39 ,40 | R48-2220-15 | RN 200 J 2E | |
| R41 ,42 | R48-2233-35 | RN 33K J 2E | |
| R43 ,44 | R48-2210-05 | RN 10 J 2E | |
| R45 ,46 | R48-2210-45 | RN 100K J 2E | |
| R47 ,48 | R48-2212-15 | RN 120 J 2E | |
| R71 ,72 | R47-1568-15 | FL-PROOF RS680 J 3D | |
| R109-112 | R43-1230-05 | FL-PROOF RD30 J 2E | |
| R113-116 | R43-1215-15 | FL-PROOF RD150 J 2E | |
| R117-120 | R43-1215-05 | FL-PROOF RD15 J 2E | |
| R121-128 | R43-1256-15 | FL-PROOF RD560 J 2E | |
| R129-132 | R43-1233-05 | FL-PROOF RD33 J 2E | |
| R133-136 | R48-6213-05 | RN 13 J 2E | |
| R139,140 | R48-2124-13 | RN 1.24K F 2E | |
| R141,142 | R48-2150-23 | RN 15K F 2E | |
| R143,144 | R48-2264-93 | RN 26.4 F 2E | |
| R145-148 | R48-2825-03 | RN 825 F 2E | |
| R149,150 | R48-2222-35 | RN 22K J 2E | |
| R153 | R47-1510-15 | FL-PROOF RS100 J 3D | |
| R154,155 | R47-1456-05 | FL-PROOF RS56 J 3A | |
| R156 | R47-1510-15 | FL-PROOF RS100 J 3D | |
| R157-160 | R43-1210-15 | FL-PROOF RD100 J 2E | |
| R163,164 | R48-2251-35 | RN 51K J 2E | |
| R165,166 | R48-2291-35 | RN 91K J 2E | |
| R201,202 | R48-2247-35 | RN 47K J 2E | |
| R217,218 | R48-2268-15 | RN 680 J 2E | |
| R231,232 | R43-1222-15 | FL-PROOF RD220 J 2E | |
| R233,234 | R47-1515-15 | FL-PROOF RS150 J 3D | |
| R235 | R47-1433-15 | FL-PROOF RS330 J 3A | |
| R236 | R47-1422-05 | FL-PROOF RS22 J 3A | |
| R241 | R43-1222-15 | FL-PROOF RD220 J 2E | |
| R242 | R43-1210-25 | FL-PROOF RD1K J 2E | |
| R244 | R43-1247-05 | FL-PROOF RD47 J 2E | |
| R245 | R43-1222-15 | FL-PROOF RD220 J 2E | |
| VR1 ,2 | R12-0502-05 | TRIMMING POT. 100(B) | |
| RL1 -3 | S51-2039-05 | RELAY | |
| RL4 | S51-4039-05 | RELAY | |
| RL5 | S51-2046-05 | RELAY | * |
| S1 | S90-0054-05 | SLIDE SWITCH | * |
| S2 | S90-0038-05 | SLIDE SWITCH | |
| S3 | S31-2059-05 | SLIDE SWITCH (IMP) | |
| S4 | S40-1012-05 | PUSH SWITCH | |
| IC4 | T95-0005-05 | PHOTO COUPLER | * |
| PHC1 | T95-0006-05 | PHOTO COUPLER | * |
| D1 ,2 | V11-4109-90 | EZ-056 | |
| D3 -10 | V11-0271-05 | 1S2076,1S1555 | |
| D11 ,12 | V11-4109-90 | EZ-056 | |
| D13 ,14 | V11-4104-80 | WZ-125 | |
| D15 ,16 | V11-4109-90 | EZ-056 | |
| D17 ,18 | V11-0271-05 | 1S2076,1S1555 | |
| D19 ,20 | V11-5100-10 | STV-4H(W) | |
| D21 -28 | V11-0271-05 | 1S2076,1S1555 | |
| D29 -32 | V11-0051-05 | 1N60 | |
| D42 -49 | V11-0295-05 | W06B | |
| D103 | V11-5100-60 | RB-151 | |
| D104 | V11-0295-05 | W06B | |
| D105 | V11-4101-80 | XZ-127 | |
| D106,107 | V21-0006-05 | DZ-140 | |
| D108 | V11-0271-05 | 1S2076,1S1555 | |
| D110-113 | V11-0271-05 | 1S2076,1S1555 | |
| D115-122 | V11-0295-05 | W06B | |
| IC1 ,2 | V30-1020-26 | NJM4558D | |
| IC3 | V30-0527-10 | NJM4556D | * |
| Q1 -16 | V03-1844-10 | 2SC1844(F,E) | * |
| Q17 ,18 | V03-1845-10 | 2SC1845(F,E) | |
| Q19 -22 | V01-1023-20 | 2SA1023(Q,P) | |
| Q23 ,24 | V03-2378-20 | 2SC2378(Q,P) | |
| Q25 ,26 | V03-0373-05 | 2SC1384(Q,R) | |
| Q27 ,28 | V01-0130-05 | 2SA684(Q,R) | |
| Q29 -32 | V03-2003-30 | 2SC2003(L,K) | |
| Q33 ,34 | V09-0141-00 | 2SK146 | |
| Q35 ,36 | V03-1845-10 | 2SC1845(F,E) | |
| Q37 ,38 | V01-0992-10 | 2SA992(F,E) | |
| Q39 ,40 | V30-0554-10 | UPA74V(P,F) | |

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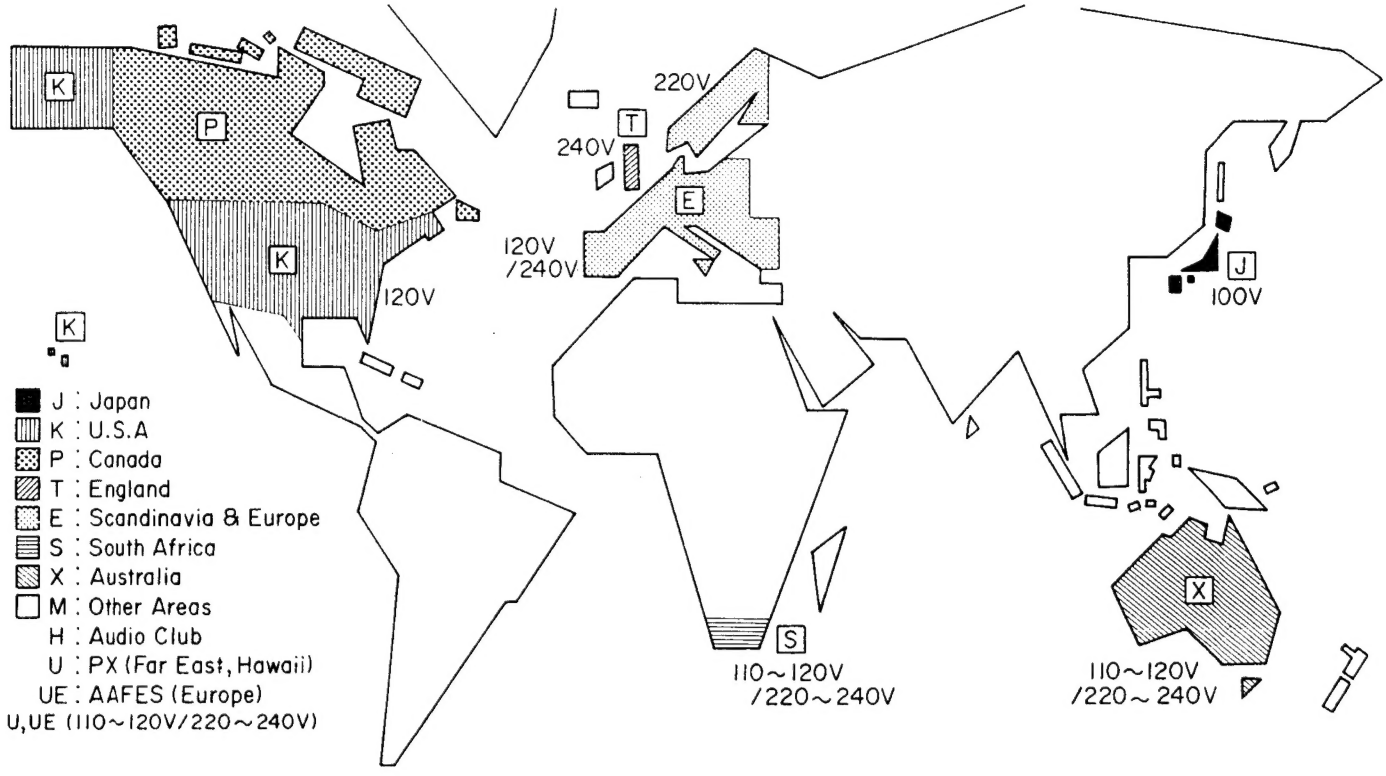
| Ref. No. 参照番号 | Parts No. 部品番号 | Description 部品名／規格 | Remarks 備考 |
|---|---|---|---|
| Q41 -48 | V01-0992-10 | 2SA992(F,E) | |
| Q49 ,50 | V03-1845-10 | 2SC1845(F,E) | |
| Q51 ,52 | V03-2631-10 | 2SC2631(Q,R) | |
| Q53 ,54 | V01-1123-20 | 2SA1123(Q,R) | |
| Q55 ,56 | V03-2591-10 | 2SC2591(Q,R) | |
| Q57 ,58 | V01-1111-10 | 2SA1111(Q,R) | |
| Q59 ,60 | V01-0992-10 | 2SA992(F,E) | |
| Q61 ,62 | V03-1845-10 | 2SC1845(F,E) | |
| Q63 ,64 | V01-1111-10 | 2SA1111(Q,R) | |
| Q65 ,66 | V03-2591-10 | 2SC2591(Q,R) | |
| Q67 ,68 | V03-1845-10 | 2SC1845(F,E) | |
| Q101 | V03-2167-10 | 2SC2167(Y,G) | |
| Q102 | V03-2003-30 | 2SC2003(L,K) | |
| Q103 | V03-2320-00 | 2SC2320,2SC945 | |
| Q104 | V01-0733-90 | 2SA733(A) | |
| Q105 | V03-2320-00 | 2SC2320,2SC945 | |
| Q106-108 | V03-2003-30 | 2SC2003(L,K) | |
| **AUDIO (X09-162*-**)** | | | |
| C1 ,2 | C91-0166-05 | POLYSTY 12PF F | |
| C3 ,4 | C52-1768-16 | CERAMIC 680PF K | |
| C5 ,6 | C91-0095-05 | POLYSTY 390PF J | |
| C7 ,8 | C91-0161-05 | POLYSTY 5PF F | |
| C9 ,10 | C91-0176-05 | POLYSTY 68PF K | |
| C11 ,12 | C71-1715-05 | CERAMIC 15PF J | |
| C13 -16 | C71-1710-02 | CERAMIC 10PF D | |
| C17 -20 | C55-1710-38 | CERAMIC 0.01UF Z | |
| C21 ,22 | C90-0554-05 | LL-ELEC 0.1UF 50WV | * |
| C23 ,24 | C49-2010-35 | MYLAR 0.01UF J | |
| C25 ,26 | C91-0172-05 | POLYSTY 33PF K | |
| C27 -30 | C55-1710-38 | CERAMIC 0.01UF Z | |
| C31 ,32 | C90-0553-05 | LL-ELEC 1UF 50WV | * |
| C33 ,34 | C52-1747-16 | CERAMIC 470PF K | |
| C35 ,36 | C91-0171-05 | POLYSTY 27PF K | |
| R1 ,2 | R48-2210-15 | RN 100 J 2E | |
| R3 ,4 | R48-2227-45 | RN 270K J 2E | |
| R25 ,26 | R43-1282-25 | FL-PROOF RD8.2K J 2E | |
| R27 ,28 | R43-1215-15 | FL-PROOF RD150 J 2E | |
| R35 -38 | R43-1230-15 | FL-PROOF RD300 J 2E | |
| R39 ,40 | R48-6230-15 | RN 300 J 2E | |
| R41 ,42 | R48-6216-25 | RN 1.6K J 2E | |
| R47 -50 | R43-1233-05 | FL-PROOF RD33 J 2E | |
| R51 -54 | R43-1210-05 | FL-PROOF RD10 J 2E | |
| R55 -58 | R43-1222-05 | FL-PROOF RD22 J 2E | |
| R61 ,62 | R48-2210-05 | RN 10 J 2E | |
| R63 ,64 | R48-2268-15 | RN 680 J 2E | |
| R65 ,66 | R43-1233-05 | FL-PROOF RD33 J 2E | |
| VR1 | R10-4006-05 | POTENTIOMETER 50K | * |
| VR2 ,3 | R12-0502-05 | TRIMMING POT. 100(B) | |
| D1 ,2 | V11-1202-40 | RD5.1JB | |
| D3 ,4 | V11-4111-30 | EZ-148 | |
| D5 ,6 | V11-4110-00 | EZ-161 | |
| D7 ,8 | V11-2200-10 | SV-22 | |
| D9 -26 | V11-0271-05 | 1S2076,1S1555 | |
| Q1 ,2 | V09-0145-30 | UPA68H(L,M) | |
| Q3 -6 | V03-2291-20 | 2SC2291(F,G) | |
| Q9 -12 | V01-0992-10 | 2SA992(F,E) | |
| Q13 -16 | V03-1845-10 | 2SC1845(F,E) | |
| Q17 ,18 | V01-0992-10 | 2SA992(F,E) | |
| Q19 ,20 | V01-0999-00 | 2SA999,2SA733(A) | |
| Q21 ,22 | V03-2320-00 | 2SC2320,2SC945 | |
| Q23 -26 | V01-1111-10 | 2SA1111(Q,R) | |
| Q27 -30 | V03-2591-10 | 2SC2591(Q,R) | |

| Ref. No. 参照番号 | Parts No. 部品番号 | Description 部品名／規格 | Remarks 備考 |
|---|---|---|---|
| Q31 -34 | V01-1123-40 | 2SA1123(S,T) | |
| **SWITCH (X13-2980-00)** | | | |
| C1 ,2 | C91-0180-05 | MYLAR 0.39UF J | * |
| C3 ,4 | C91-0094-05 | POLYSTY 330PF J | |
| C5 ,6 | C24-1447-57 | ELECTRO 4.7UF 25WV | |
| C7 ,8 | C91-0179-05 | MYLAR 0.039UF J | * |
| C9 ,10 | C24-1410-77 | ELECTRO 100UF 25WV | |
| C11 ,12 | C71-1722-05 | CERAMIC 22PF J | |
| 301 2A | E11-0082-05 | PHONE JACK | * |
| 302 2A | G01-0408-04 | COILED SPRING | * |
| R1 ,2 | R48-2222-25 | RN 2.2K J 2E | |
| R3 ,4 | R48-2233-15 | RN 330 J 2E | |
| R5 ,6 | R48-2247-25 | RN 4.7K J 2E | |
| R17 ,18 | R43-1227-15 | FL-PROOF RD270 J 2E | |
| R19 ,20 | R43-1222-15 | FL-PROOF RD220 J 2E | |
| VR1 | R06-5064-05 | POTENTIOMETER 1000K | * |
| VR2 | R06-6005-05 | POTENTIOMETER | * |
| S1 | S40-4035-05 | PUSH SWITCH | * |
| S2 -4 | S40-2121-05 | PUSH SWITCH | * |
| S5 | S29-2023-05 | ROTARY WAFER SWITCH | * |
| S6 ,7 | S40-4036-05 | PUSH SWITCH | * |
| D1 ,2 | V11-4110-10 | EZ-179 | |
| IC1 | V30-0344-40 | NJM4560D-N | |
| **SUB (X13-3030-00)** | | | |
| C1 | C55-1710-38 | CERAMIC 0.01UF Z | |
| C2 | C52-1715-26 | CERAMIC 0.0015UF K | |
| C3 | C55-1710-38 | CERAMIC 0.01UF Z | |
| C4 ,5 | C24-1210-77 | ELECTRO 100UF 16WV | |
| C6 | C24-1710-57 | ELECTRO 1UF 50WV | |
| C7 | C49-2047-45 | MYLAR 0.47UF J | |
| C8 | C71-1747-05 | CERAMIC 47PF J | |
| R14 | R43-1247-15 | FL-PROOF RD470 J 2E | |
| R37 | R43-1210-25 | FL-PROOF RD1K J 2E | |
| D1 -9 | V11-0271-05 | 1S2076,1S1555 | |
| IC1 | V30-1050-06 | TC4027BP,UPD4027BC | |
| Q1 ,2 | V03-2320-20 | 2SC2320(E,F,G) | |
| Q1 ,2 | V03-0293-05 | 2SC945(A)(P,K) | |
| Q3 | V03-2320-00 | 2SC2320,2SC945(A) | |
| Q4 | V01-0999-00 | 2SA999,2SA733(A) | |
| Q5 -8 | V03-2320-00 | 2SC2320,2SC945(A) | |
| Q9 | V03-2003-00 | 2SC2003,2SC945(A) | |
| Q10 ,11 | V03-2320-80 | 2SC2320(E,F,G) | |
| Q10 ,11 | V03-2320-80 | 2SC945(A)(P,K) | |
| Q12 | V03-2320-00 | 2SC2320,2SC945(A) | |

K: U.S.A. U: PX E: Europe M: Other area
P: Canada T: England *: New parts

L-08C

# WORLD MAP & AREA CODE




**Note:**

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the U.S. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.


A product of

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